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THE USE OF $\phi\rho\tau\sigma\iota\varsigma$ IN FIFTH-CENTURY
GREEK LITERATURE

A DISSERTATION

SUBMITTED TO THE FACULTY
OF THE GRADUATE SCHOOL OF ARTS AND LITERATURE
IN CANDIDACY FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

DEPARTMENT OF GREEK

BY

JOHN WALTER BEARDSLEE, JR.

THE UNIVERSITY OF CHICAGO PRESS
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PREFACE

This investigation was begun in the summer of 1907 at the suggestion of Professor Paul Shorey, of the University of Chicago. Throughout my study I have been constantly favored by his generous advice and assistance, without which this paper could never have been written. At the time the investigation was begun neither the paper of Professor Lovejoy nor that of Professor Heidel had appeared or been announced. Publication has been unavoidably delayed, but it is believed that in methods and scope this paper is so different from those of the two scholars mentioned that they cannot be said to have anticipated it. Professor Lovejoy in a review of Professor Heidel's paper (*Philosophical Review*, 1910, p. 666) has expressed his conviction that there was great need of just such an investigation as this aims to be.

Accompanying the list of occurrences of $\phi\acute{\upsilon}\sigma\iota\varsigma$ will be found the names of the editions according to which references have been made and the pages of this paper on which the more important instances are discussed.

NEW BRUNSWICK, N. J.

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CHAPTER I

INTRODUCTION

There are many conceivable methods of studying the history of a word like φύσις or of an idea such as that word denotes. One may investigate the history as actually contained in the documents that are still preserved or one may try to reconstruct the actual development as it took place in the past. It is needless to say that these two methods are entirely different and that they will lead to very different results. The former alone is really historical. The latter is and must always be largely conjectural. This is most noticeably true in the earlier decades of the period covered by this paper. The fragments of Greek philosophy before Plato have now been collected. Many of those included in the earlier collections are manifestly spurious. Some, even of those in Diels's collection, are not without suspicion. The whole amount of these fragments is exceedingly small. The context is generally so slight that it offers little help toward an appreciation of the terminology. Yet how can one hope to learn the exact force of any word without a context? In what remains of Homer, Aeschylus, and Pindar φύσις is used but seven times. Manifestly from only seven instances there can be drawn no exact statement of the history of a word which at the time of the Peloponnesian War had already developed a large number of distinct meanings and had come to be used with very different associations.

The result, then, of attempting to construct the history of the idea of nature in early Greece must be hypothetical. Although some discussion of the present-day theories of this development is found in this essay, it is largely concerned with the other line of inquiry. The intention is to trace the history of the Greek word φύσις as known from its actual occurrences in the extant literature. One who pursues this line of inquiry will busy himself chiefly with the interpretation of specific passages of Greek literature. One who pursues the other must perforce lay much greater stress on the conflicting accounts of very late authors and must make much use of the constructive imagination.

In tracing the development of a philosophical term it is often possible to find distinctions of meaning which were not consciously intended by the philosopher himself, but which are implied in his writing. Much

criticism of philosophy is of this description. Sometimes the author has been guilty of careless thinking. Sometimes later writers have learned to state clearly distinctions which were unnoticed and unexpressed in the language of their predecessors. In any case the attempt to mark these distinctions is often needful for the clear understanding of an argument or the clear statement of an idea as it appealed to an early thinker. It can do no harm, provided that the critic constantly bears in mind the fact that the distinction is his own and not that of the writer under discussion.

In the common usage of the Greek language the word φύσις possesses two quite distinct meanings. It stands for the "origin," the "beginning," of a person or thing, and it is also used for the "character," the "qualities," of a person or thing.

An often-quoted line of Aristotle shows that in his day these two meanings were quite distinct and that the ordinary uses of φύσις retained little connection with the meaning of the verb φύω. He says¹ that φύσις may mean γένεσις, just as if it were pronounced with a long υ, implying that this long υ would indicate its derivation from φύω. The *Etymologicum Gudianum* actually explains two distinct words,² one φῦσις, the other φύσις. The former=τὸ φύον καὶ κινούμενον ἐν ἅπασιν, while the latter=οὐσία, ἣ προαίρεσις παρὰ τὸ φύειν τὰς ὑποστάσεις, ἧτοι τίκτειν, ἣ παρὰ τὸ πεφυκέναι. Here the active and passive senses seem to be distinguished, but the distinction is not clear.

These two meanings run parallel to each other. "Origin" is perhaps the primary meaning, but always remained rare, and, except in a few idiomatic phrases, died out during the fourth century. In the earliest Greek literature that is preserved to us the other meaning, that of "character," "qualities," is already full-blown, and there seems to remain little emphasis on the origin of those qualities. This is throughout Greek literature the predominant use of the word. It is of course true that a word which continued to be used for "origin" would often blend that use with its meaning "character," so that the emphasis would be laid on the character as innate, as original, as unaffected by art or man's device. Such is often the case. Moreover, the connection of the word with φύω could not fail to have some influence in the same direction, even though that connection was often unnoticed. But, notwithstanding

¹ Met. 1014b, 17.

² P. 559, 31, 38, 46. Other definitions in the late lexicons are interesting: *Lex. Orionis Thebani*, p. 160, l. 17: φύσις· ἣ φύουσα ἐν ἅπασιν; *Etym. Mag.*, p. 802, l. 51: φύσις, παρὰ τὸ φύω, φύσω, ἣ ἐν ἅπασιν φύουσα καὶ κινουμένη.

these facts, it remains true that the common and elemental notion conveyed to the Greek mind by the word *φύσις* seems to have contained almost nothing of the idea of "original," "native," or "primary." It meant simply the "make-up," the sum of the qualities of an object or any one of those qualities which might be under consideration.

The first occurrence of *φύσις* is in Homer. It is there used for the outward characteristics of the moly, the characteristics by which Odysseus may be able to identify the plant. It is first used for "origin" in Empedocles, where it already has the technical and specialized sense of "real beginning," "primary origin." By Pindar and Aeschylus it is used only in sentences in which it is descriptive of a quality. There is nowhere a reference to the origin or source of the quality. It is used frequently by Sophocles, Euripides, and the other poets and prose writers of the fifth century for the moral and intellectual character of a person. In the *Hippocratica* it usually denotes the character of a person as a physician sees him—much what we today call temperament or disposition. In the time of the Sophists, when emphasis began more and more to be laid on those qualities which made for the political and social success of their possessors, *φύσις* began to be used in a specialized way of the qualities of character that counted most in their view of life, of a talent for oratory or leadership. These were just the qualities which in the older Greek thought were imagined to be innate, and so *φύσις* was used for the inborn character—a character which might or might not be thought of as subject to the influences of training or education. A late writer implies that in scientific literature as early as the school of Democritus *φύσις* was used for the elementary condition of matter, to which alone the early physicists seem to have attributed metaphysical reality. It seems not to be true that in this development *φύσις* is always or predominantly used with a reference to the idea "inborn" or "innate." Its uses with that connotation seem to be derivative—perhaps derived in some such way as briefly suggested above.

A word so general in meaning could hardly help being used, like *res* in Latin, with a great variety of shades of meaning, some of which became so slight that they are practically negligible. So *φύσις* is used for quality of action or "manners," for the "ways" of a people or a person, for the "appearance" of an object—that is, for the qualities that one sees—for human nature, first that of the whole man, body and mind, and later for the man's moral and intellectual qualities, for animal "species," for one of the two "kinds" of dropsy, for the "nature" of a thing, which may be weakened till it is equivalent to "what" the thing

is or becomes merely a periphrasis. In the last event φύσις has lost all definite meaning and only adds to the rhetoric of a phrase. It is so found chiefly in poetry or in highly poetic prose, but by the time of Aristotle this periphrastic use had established itself in the literature of natural philosophy.

The scientists used φύσις for the nature of the objects in which they were interested. They were naturally interested in qualities quite different from those which attracted the attention of common folk, and so φύσις with the scientists came to mean the real or inner nature of an object, those qualities that are discerned only by scientific research and technical knowledge. As their knowledge widened and became more systematic and they sought to unify all the objects of the universe in some fundamental concept, the word was used for the nature of all things. At first, probably, these objects were thought of as separate, and the phrase φύσις πάντων was used merely of certain qualities common to all things. Then φύσις πάντων and lastly φύσις alone came to be used as we use Nature, spelled with a capital. The personification of this Nature was made easy by the natural genius of the Greek for personification and the tendency of his philosophy to regard the motion of objects as impelled by forces inherent in the objects. Moreover, φύσις in many of its specific meanings had already been personified. So Nature became the single universal force that is responsible for physical movement, sometimes opposed to human efforts, sometimes including them. It is impossible to say when this use arose. The effort to determine that time belongs to the sphere of speculative, not to that of historical, inquiry. The first positive and datable occurrence is in Euripides' *Troades*, 415 B.C. It is extremely improbable that the poet should have introduced so philosophical a conception. There are good reasons for believing that it far antedated Euripides and sprang from the schools of physical philosophy. It has been said that this manner of speech arose in the time of the Sophists and that it is an example of their rhetorical style. It seems far more likely that another explanation will account for the frequent use of φύσις by the Sophists.

With the same line of reasoning, but starting from an opposite world-view, Plato uses the word for the real nature of things in general, and so comes to designate by it his world of Ideas.

It is natural to suppose that around a word so frequently and so variously used there would cluster a number of idioms. Such is the fact. Chief among these are ἔχει φύσιν, κατὰ φύσιν, παρὰ φύσιν, and φύσις opposed to νόμος in one of its many forms or meanings. It appears that

in none of these cases do we need to suppose that φύσις necessarily meant generalized "Nature." Their origin can be as well explained from the particular meanings of φύσις, and many instances of their use are to be so explained.

An examination of the use of φύσις seems to show that, not only in the case of these idioms, but often elsewhere, φύσις should be given a specific interpretation where the general has been more commonly allowed or where there has been no effort to mark the distinction. Often, it is true, it is impossible to tell whether the writer meant the nature of some particular object or nature as a whole. Often it makes absolutely no difference in the meaning. But sometimes the neglect of the distinction has been the cause of a purely fanciful interpretation and of reading into an author much of which he never dreamed.

CHAPTER II

HOMER, PINDAR, AND AESCHYLUS

The only occurrence of φύσις in Homer¹ has been much discussed. Liddell and Scott classify the word under the heading "nature, natural powers, qualities, constitution." Autenrieth translates, "natural characteristic, quality, property." Apart from the complexity of these ideas, so foreign to the simple style of Homer, they are objectionable because of the ambiguous word "natural." If that word is used with its later associations and implies "original," it is almost certainly wrong. Still more objectionable, however, is the rendering "powers" or "property." This idea is further emphasized by Campbell,² who translates, "the 'virtues' of a drug," and by Pierron, who renders, "la nature, c'est-à-dire la vertu." This notion of inner potency must be very much later than Homer on any theory of the composition of the *Odyssey*, and, moreover, does not suit the context. Faesi gives the best explanation: "die natürliche Beschaffenheit, die sich äusserlich in der schwarzen Wurzel und der weissen Blüten zu erkennen giebt. Die Wirkung war durch x. 291 ff. hinlänglich angegeben." With him agree Ameis, Duentzer, Ebeling in his lexicon, Buchholz,³ Heidel,⁴ and Hayman. Hayman points out that it is quite according to the style of the *Odyssey* to explain a word by a line following and compares i. 299 f. The only Greek whose opinion of the line I can find is Galen. He says that φύσις here means the perceived character of the moly.⁵ This is correct. Hermes shows Odysseus what the moly looks like.

In Pindar φύσις is used only twice,⁶ but φυνή is frequently found, and there is apparently no difference between the meanings of the two words.

¹ *Od.* 10. 303.

³ *Hom. Realien*, I, part 2, p. 216.

² *Ed. Rep.*, II, 317.

⁴ *περὶ φύσεως*, n. 124.

⁵ *De περὶ φύσιος ἀνθρώπου* Kühn xv. 3.

⁶ *Fr.* 169: . . . κατὰ φύσιν . . . νόμος ὁ πάντων βασιλεὺς . . . The phrase κατὰ φύσιν was inserted in the fragment by Boeckh and is defended by Stallbaum *ad Gor.* 484b. Steinthal, *Ges. d. Sprach.*, I, 70 ff., Bergk, Christ, and Benn in *Archiv f. Ges. d. Phil.*, IX, 35, think, with reason, that the κατὰ φύσιν in the Plato passages is not Pindar's, but was inserted by the interlocutors in the dialogues. It is not in the quotation as found in Herodotus iii, 38; *π γωνῆς* vii. 470; *Anon. Iamb.*, Diels, II, 332, l. 13.

Φυή is Homeric and is in Homer always used for the outward physical character, generally as an accusative of specification.¹ In the tragedians φυή is found but once,² then of the Gorgon, but so weakly used as to be almost a periphrasis.

Pindar says of Melissus that he is slight of build; he has not the φύσιν Ὀδριωνείαν.³ Here the reference is evidently to the physical stature of Pindar's hero. Φυή is so used when Pindar says that Strepsiades' valor is no less than his stature might lead one to expect.⁴ When Pelops came to the "fair blooming prime of life" he bethought himself of marriage.⁵ The context and a comparison with *Persae* 441 show that the poet is thinking, not of "age" in any sense in which the meaning might be derived from "origin" or "birth," but of age as indicated by outward physical characteristics. Jason drives his goad into the "broad flanked bulk" of Aetes' bulls.⁶

But φυή is also used of the moral and intellectual characteristics of men. Pindar accepts the old aristocratic tradition that thoroughly believes in the virtue of good and noble birth. Poets are born, they cannot learn their art.⁷ Epharmostus' skill, like that of Heracles or of the poet himself, is due to god-given natural ability, not to teaching.⁸ One should contend by force of genius.⁹ A spirit noble in character descends gloriously from father to son.¹⁰ There is no sure instance in Pindar of φύσις used in this sense. There is, however, a fragment of doubtful genuineness, quoted by Theodore Metochita and discussed on page 86. Again, Pindar says that men are somewhat like the gods ἧ μέγαν νόον ἥτοι φύσιν.¹¹ There is some question whether the phrases are parallel or antithetic. In the one case φύσιν would mean "in outward appearance"; in the other it would be a synonym of νόον. I know of no

¹ E.g., *Il.* ii. 58. Out of nine occurrences only two are not accusatives of specification.

² Eur. *El.* 461.

⁴ *I.* 7. 22; cf. Soph. *El.* 686.

³ *I.* 4. 49.

⁵ *O.* i. 67.

⁶ *P.* 4. 235.

⁷ *O.* 2. 94: σοφὸς ὁ πολλὰ εἰδὼς φυᾷ μαθόντες δὲ This passage is quoted by Longinus, *Τέχνη*, p. 570, Walz, with φύσει in place of φυᾷ.

⁸ *O.* 9. 100: τὸ δὲ φυᾷ κράτιστον ἅπαν πολλοὶ δὲ διδακταῖς

⁹ *N.* i. 25: μάρνασθαι φυᾷ.

¹⁰ *P.* 8. 44: φυᾷ τὸ γενναῖον ἐπιπρέπει ἐκ πατέρων παισὶ λῆμα. In this passage Metzger wrongly interprets φυᾷ as "physique," thinking that the poet refers to the growth of the Epigoni in the time intervening between the expeditions.

¹¹ *N.* 6. 5. Metzger wrongly interprets, "die Beschaffenheit des dem Menschen angeborenen Wesens."

way to decide. A similarly doubtful reference is found in *Bacchylides*,¹ where Heracles asks Meleager whether he has a sister σοὶ φῶν ἀλιγκία. I do not see how it is possible to determine whether Heracles refers to the physical or the mental qualities of Meleager. He has just been admiring both.

In Aeschylus φύσις is used only for the "outward, visible character" of a person or thing. He uses the word five times.² The fashion of the Egyptian maidens' form is not gowned like that of the Argive damsels.³ Those Persians are dead whose features were in the prime of life.⁴ Here φύσιν at first seems to mean "age," but the line following shows that it is almost equivalent to "body" or "constitution." Apollo will send a plague devouring men's native "shapes."⁵ Paley translates "constitution" in the medical sense. It is much more likely that Aeschylus means that the plague sores are to ruin the outward, visible nature of the body. There is nothing in common with the usage of the physicians. The meaning is the same as in the *Supplices* and in the *Persae*: the "nature" of the body, as one sees it. Prometheus has shown men which omens are "of favorable nature," i.e., "favorable."⁶ The sun sees all the earth.⁷

With regard to these nine instances, the only ones found in literary Greek before the middle of the fifth century, three things are especially to be noted: (1) All, except the Pindar fragment, refer to the outward, visible characteristics of the object or person under consideration—to its "appearance." This should be expected in early, non-philosophical Greek. (2) In the earliest Greek that remains, the word had already lost its associations with the verb φύω and had come to mean "nature" in an almost, if not entirely, descriptive sense. None of these examples contains any specific reference to the fact that the qualities mentioned

¹ 5. 168.

² In πάνυ γὰρ φύστις μυριάς, *Pers.* 926, φύστις is said to mean "race" or "tribe" and to be a variant for φύσις. The word occurs nowhere else and is probably wrong. It is rejected by most modern editors.

³ *Supp.* 496.

⁴ *Pers.* 441: Περσῶν ὅσοι περ ἦσαν ἀκμαῖοι φύσιν
ψυχὴν τ' ἀριστοὶ κεῦγένειαν ἐκπρεπεῖς.

⁵ *Cho.* 281. The same phrase is in Aristides *ἱερῶν λόγων* v. 48.

⁶ *Pro.* 489.

γαμχνώνων τε πτήσιν οἰωνῶν σκεθρῶς
διώρισ', οἳ τινὲς τε δεξιὸι φύσιν.

Liddell and Scott refer to this passage under "nature of the mind"!

⁷ *Ag.* 633. See p. 86.

are innate or original. None of them means "birth." In the line from the *Choephoroi*, the only instance in which any emphasis is to be laid on the originality of the attribute in question, the adjective ἀρχαίαν is added. (3) Already in the time of Aeschylus φύσις had become so general that often it lost much of its significance. In the Pindar fragment, in the *Supplices*, in the *Prometheus*, and in the *Agamemnon* its actual addition to the thought seems to be entirely negligible. It adds only to the ornateness of the diction. This is the use referred to as periphrasis. A section is later devoted to its discussion.

CHAPTER III

THE PRE-SOCRATICS

The pre-Socratics offer problems of greater difficulty. *Περὶ φύσεως* and the rise of the ideas of Nature and the normal are treated in separate sections. In the fragments quoted by Diels *φύσις* is found thirty-seven times. In many of these instances the word is extremely difficult to interpret with precision because of the lack of context and the fragmentariness of our knowledge of the systems and methods of these early thinkers. The naïve statement of a recent notice of Heraclitus¹ might well be wished true: "The only authentic extant work of Heraclitus is the *περὶ φύσεως*."

For instance, *φύσις κρύπτεσθαι φιλεῖ*² well illustrates Heraclitus' sense of the difficulties encountered in his efforts at explanation. But the sentence is utterly valueless in an attempt to trace the lexicography of *φύσις*. Any attempt at an exact translation of the fragment must beg the question of the meaning of that word. Is it the origin of phenomena that Heraclitus is trying to trace? Is it human nature that he finds hard to understand? If so, is it man's physique that troubles him, or is it, as Philo once affirms,³ the mental and moral nature of human beings that lies hidden? Is it the "primary substance" which Burnet thinks the ordinary pre-Socratic meaning of *φύσις*? If in Heraclitus' book the words formed a sentence by themselves and stood alone, it might be assumed, as it is by Themistius⁴ and by most moderns, that universal nature is meant. But what right have we to assume that they stood alone? May they not have been used in a connection in which they referred merely to the nature of some one thing or to the nature or character of anything whatever—the way it works, what it really means? The fact is that in antiquity the phrase was a proverbial saying used to point any statement concerning the difficulty of obtaining true knowledge. Philo uses the quotation once as mentioned above, but three times of the difficulty of understanding the esoteric truths contained in

¹ Mitchell in *Encyc. Brit.* 11th ed., art. "Heraclitus."

² Fr. 123.

³ *Quaest. in Gen.* iv. 1.

⁴ *Or.* 5, p. 69.

the Hebrew Scriptures.¹ The emperor Julian,² also, uses the words in a context that concerns the esoteric nature of things. In this mass of possibilities it is certain only that the exact connotation in which Heraclitus used the words is not known. The fragment, like many others, is too brief and disconnected to be of any service in determining accurately the meaning of φύσις. Instances like this can easily be multiplied. Besides, it is often difficult and sometimes impossible to determine how much of the quotation is intended to be in the exact words of the original writer and how much is meant merely to convey his meaning in the language familiar to later times.

The greatest difficulties of interpretation, however, seem to be encountered by those writers who try to explain all these instances in the same way. Professor Lovejoy has recently held, and I think quite correctly, "that as a technical term, and especially in the treatises of the cosmologists, φύσις meant 'the intrinsic and permanent qualitative constitution of things,' or, more colloquially, 'what things really are.'"³ He then tries to show that *all* the pre-Socratic passages can be so explained. He is thus led into an exceedingly strained interpretation of Empedocles' φύσις οὐδενός ἐστιν πάντων.⁴ While admitting that it is more natural to suppose that φύσις here means "origin" or "birth," he translates, "There is no permanent 'nature' in mortal things nor any end of destroying death." He supports his translation by quoting Aristotle's *Metaphysics* 1014b, 35: λέγεται ἡ φύσις ἡ τῶν φύσει ὄντων οὐσία. οἷον οἱ λέγοντες τὴν φύσιν εἶναι τὴν πρώτην σύνθεσιν ἢ ὥσπερ Εμπεδοκλῆς λέγει ὅτι φύσις οὐδενός ἐστιν ὄντων. The passage is admittedly hard to interpret. Whatever Aristotle may have meant by identifying σύνθεσις and οὐσία, πρώτη σύνθεσις might refer to the first putting together of things. In this case it would be an exact synonym of φύσις in the sense in which Empedocles seems to have used it in the sentence which Aristotle quotes. It is true that πρώτη σύνθεσις in Aristotle often means the "primary composition of substances."⁵ But

¹ *De specialibus legibus* iv. 51; *De somniis* i. 6; *De fuga* 179.

² *Orat.* 7, p. 216c.

³ *Phil. Rev.*, July, 1909, p. 376. The "colloquial" meaning seems to me far the more accurate of the two.

⁴ Fr. 8; Diels; Zeller (5th ed., I, 755), Fairbanks (*First Philosophers of Greece*, p. 163), Nestle (*Die Vorsokratiker*, p. 137), Woodbridge (p. 366), Huit (p. 300), Heidel (p. 98), and most others translate "origin." Liddell and Scott classify under "nature as an originating and moving power"!

⁵ *De part. an.* 646a, 12.

σύνθεσις very often means the "process of composition,"¹ and there is no reason why it should not be so taken here. Moreover, Professor Lovejoy contends that if φύσις here means "origin" Empedocles has used ἀπάντων θνητῶν in a sense entirely different from his usual manner. Ordinarily "the world of mortal things constitutes the realm of becoming and decay." "According to the usual interpretation, therefore, Empedocles violates the most fundamental distinction of his entire philosophy and expresses himself in a singularly paradoxical manner: 'there is no birth and no perishing of things that perish.'" This is hard to follow. Noone has supposed that φύσις means "becoming" in the sense in which becoming is opposed to being and of lesser worth. If φύσις means "birth" at all in this passage, it means "primary origin," "real birth," as opposed to the apparent origin which is really a remixing of pre-existing substances. This is the interpretation of the author of *De Melisso Xenophane Gorgia*² and of Plutarch.³ It is in perfect agreement with the sentiments of Empedocles as explained in Aristotle and in several of the fragments of the author himself. It is imitated by the author of the *περὶ διαίτης*.⁴

This discussion has been inserted here to show the danger of attempting to force the same interpretation of φύσις upon all passages or of speaking of the "pre-Socratic use" of a word. It is only rarely that φύσις means "origin." But it is rash, indeed, to maintain that it cannot be used in that meaning. Each passage must be examined on its own merits.

In Heraclitus there is already twice found the idiom so common later, κατὰ φύσιν.⁵ It appears to mean "according to the nature of the individual object." This is merely an extension of the usage common in the early poets. There external characters and qualities were denoted. Here it is the inner nature, the real meaning of objects, that Heraclitus proposes to make known and according to which he advises men to frame their course of action. φύσις κρίπτεσθαι φιλεῖ offers no material for the history of the word. It has been discussed on page 10.

Parmenides' ἔστιν ὅπερ φρονέει μελέων φύσις ἀνθρώποισιν⁶ means the nature or qualities of the body as conditioned by the preponderance of

¹ *Rep.* 533b; *Met.* 1027b, 19; 1042b, 16.

² 975b, 7.

³ *Adv. Colot.* 1111f ff., 1113c.

⁴ vi. 474: ἀπόλλυται μὲν οὖν οὐδὲν ἀπάντων χρημάτων, οὐδὲ γίνεται ὅ τι μὴ καὶ πρῶθεν ἦν, ξυμμισγόμενα δὲ

⁵ *Frs.* 1. 112.

⁶ *Fr.* 16; cf. Theophrastus *De sensu* 3.

hot or cold. The "nature" of air and of the moon is joined with *ἔργα* and *σήματα* to form a statement of the topic Parmenides is about to discuss.¹ In itself the quotation tells nothing about the exact meaning of the word. Philolaus has the same phrase, *ἔργα καὶ τὴν οὐσίαν*² (= *αὐτὴ φύσις*), where *οὐσία* quite plainly means merely the character or sum of the characters of number.

Empedocles first, in the extant fragments, uses *φύσις* to mean "origin."³ He is also the first, as far as we know, to use the word for "human character" comprising intellectual and moral attributes. "These truths will grow into each one's habits of life, where a man's true character lies," although it must be admitted that this passage has been very variously interpreted and may be corrupt.⁴ This is also the first occurrence of a familiar Greek saying which appears in many forms, "Habit makes character."⁵ Fr. 63 contains a periphrasis.

¹ Fr. 10.² Fr. 11.³ Fr. 8 twice.

⁴ Fr. 110: *αὐτὰ γὰρ αὖτις ταῦτ' εἰς ἥθος ἕκαστον, ὅπῃ φύσις ἐστὶν ἐκάστω*. Fairbanks, p. 187, translates, "For these themselves shall cause each to grow into its own character, whatever is the nature of each." This seems to make *ἥθος* and *φύσις* refer to the facts to be imparted by Empedocles. The context shows that Diels is right in making these words refer to the character that receives the information—"es wächst von selbst dieser *Schatz* in deinen inneren Kern hinein." Woodbridge's theory compels him to translate (p. 367): "These will cause them to grow each in its own nature, whatever origin each may have."

⁵ Stobaeus twice quotes *μελέτη χρονισθεῖσ' εἰς φύσιν καθίσταται* as a proverb—*Ec.* ii. 31. 10 and ii. 7. 11m. See also *π' ἀέρων* ii. 58: *ὁ νόμος αἰτιώτατος ἐγένετο τοῦ μήκεος τῆς κεφαλῆς, νῦν δὲ καὶ ἡ φύσις ξυμβάλλεται τῷ νόμῳ*; Evenus Fr. 9 *ap Eth. Nic.* 1152a, 33:

φημί πολυχρόνιον μελέτην ἔμεναι, φίλε, καὶ δὴ
ταύτην ἀνθρώποισι τελευτῶσαν φύσιν εἶναι;

Eur. Fr. inc. 1027:

νέος δ' ὅταν

πόλλ' ἐξαμάρτη, τὴν ἁμαρτίαν ἔχει
εἰς γῆρας αὐτοῦ τοῖς τρόποισιν ἔμφυτον;

Rep. 395d: *αἱ μυχῆσεις . . . εἰς ἔθνη τε καὶ φύσιν καθίστανται*; *Laws* 792e: *ἐμφύεται πᾶσι τότε τὸ πᾶν ἥθος διὰ ἔθος*; *Xen. Lac.* 3. 4: *τὸ αἰδεῖσθαι ἰσχυρῶς ἐμφύσαι βουλόμενος αὐτοῖς*; *Democritus* Fr. 33: *ἡ διδασχὴ μεταρυσμοῖ τὸν ἀνθρώπον, μεταρυσμοῦσα δὲ φύσις ποιεῖ*; *Ar. Rhet.* 1370a, 7: *ὁμοιον γάρ τι τοῦ ἔθους τῇ φύσει · ἐγγὺς γὰρ καὶ τὸ πολλάκις τῷ αἰεῖ*; *De Mem.* 452a, 30: *τὸ δὲ πολλάκις φύσιν ποιεῖ*; *Rep.* 424a: *παίδευσις χρηστὴ σωζομένη φύσις ἀγαθὰς ἐμποιεῖ*; *Theophrastus C.P.* ii. 5. 5: *τὸ γὰρ ἔθος ὥσπερ φύσις γέγονε*; *Ar. Prob.* 949a, 27: *μέγα μὲν τι καὶ τὸ ἔθος ἐστὶν ἐκάστοις· φύσις γὰρ ἤδη γίνεταί*; *Plut. De san.* 132a: *τὸ ἔθος τρόπον τινὰ φύσις οὐ παρὰ φύσιν γέγονε*; *Galen π' κράσεως φαρμάκων* xi. 601, Kuehn: *τῷ δὲ ἐθισμῷ σύμφυτον ἐγένετο (κώνειον). καὶ οὐ νῦν καιρὸς ἀποδιδόναι τὴν αἰτίαν τοῦ πλείστον δύνασθαι τὰ ἔθνη καὶ φύσεις ἐπικτήτους*; *Aristides Quintilianus*, p. 73, Meib: *ἐκ γὰρ τοῦ δι' ὥδης μὲν ὀλιγωρεῖν τὰ φαῦλα προσφέρεσθαι συνήθειά τις καὶ οἰκειότης περιγίνεται, ἐκ δὲ ταύτης φύσις,*

From the mass of fragments of Philolaus quoted in earlier works Diels has culled eighteen. The genuineness of almost all these, of all in which φύσις is used, is more than doubtful, and no argument can be based upon them. They contain one of the earliest examples of φύσις used for generalized Nature¹ and also one of the earliest instances of *περὶ φύσεως*.² There is no reason to suppose that here this phrase refers to anything more than "the qualities" of any individual object. It is quite certainly explained by the line following *ἀ μὲν ἐστὼς τῶν πραγμάτων* . . . *καὶ αὐτὰ μὲν ἂ φύσις*, where φύσις is particular. In the long fragment about numbers⁴ φύσις is used six times, always of "the virtues" of some abstraction, number in general, the gnomon, the unlimited, falsehood. This construction with a genitive or, in the last case, with the equivalent dative of φύσις limiting a noun means "essential nature or character." In every case the sentence would construe without the φύσις, but would lack the continual emphasis on the real, the inner, the mysterious qualities of numbers and abstractions that for the Pythagoreans were the essential ingredients of the world. It does not seem reasonable to suppose a wide variety of usage within the fragment as is done by Huit,⁵ who translates *ἂ φύσις τῷ ἀριθμῷ* by "essence," but calls *ἀλόγῳ φύσιος* "une periphrase plus doctorale." There is no real difference between φύσις = the essence of number and φύσις = the essence of falsehood or of the unreasonable. Synonyms of φύσις are οὐσία, Diels, I, 313, l. 14; δύναμις, 314, l. 2. Nestle's⁶ translation of Fr. 6 by "mit Natur" and "die Natur" is too strong. These very questionable fragments contain

ἐξ ἧς ὁρέξεις εἰς τὰς πράξεις ἀναφύονται; cf. [Longinus] *π ὑψους* 22. 1: τότε γὰρ ἡ τέχνη τέλειος, ἥνικ' ἂν φύσις εἶναι δοκῇ, ἡ δ' αὖ φύσις ἐπιτυχῆς δταν λανθάνουσιν περιέχῃ τὴν τέχνην. The thought is of course common enough in Latin and modern literature, e.g., Sall. *Jug.* 85. 9: "Bene facere iam ex consuetudine in naturam vortit"; Cic. *De fin.* 5. 74: "Consuetudine quasi alteram quandam naturam effici"; Quintilian i. 2. 8: "Fit ex his consuetudo, deinde natura"; Arnobius ii. 21: "Fiet familiaris e more consuetudo in naturam versa."

¹ Fr. 1, Hardy, *op. cit.*, p. 30, n. 2, and Huit, *op. cit.*, p. 272, n. 3, translate as periphrasis or as = ὁ κόσμος. Diels translates, "Die Natur bei der Weltordnung," which is a good paraphrase.

² Fr. 6.

³ Texts vary much, but the sense of φύσις is not affected. See Zeller, 5th ed., I, 346, n. 1, and Diels, *ad loc.*

⁴ Fr. 11, *ἂ φύσις ἂ τῷ ἀριθμῷ, κατὰ γνώμονος φύσιν, τῷ ἀριθμῷ φύσιν, ἂ τῷ ἀριθμῷ φύσις, ἀλόγῳ φύσιος, τᾷ φύσει τὸ ψεῦδος*. On this last see Waitz on Ar. *Tor.* 100b, 30: ἡ τοῦ ψεύδους φύσις.

⁵ *Op. cit.*, p. 272, n. 3.

⁶ *Die Vorsokratiker*, p. 161.

also one of the earliest instances in Greek philosophy of the antithesis *φύσις* vs *νόμος*,¹ but with nothing of the context, without which we have no clew to Philolaus' meaning.

In Archytas, too, there is some doubt concerning the genuineness of the fragments, but the long quotation on harmony is consistently attributed to Archytas by the ancients and is accepted by Blass and Diels. In it *φύσις* occurs twice, once in the phrase *περὶ τὰς τῶν ὄλων φύσιος*² and once for our physical human nature, which is limited so that there are many sounds which *οὐκ εἶναι ἀμῶν τῇ φύσει οἶους τε γινώσκεισθαι*.³

Diogenes of Apollonia says that no absoluteness can be ascribed *τῇ ἰδίᾳ φύσει*⁴ of each of the so-called elements, because if there were such qualities, absolutely independent, the elements could never mix with one another. Here *φύσις* evidently means "qualities" of an individual object. It is worthy of note that the fact that the qualities spoken of are primary is not involved in the noun *φύσει*, but is expressed in the adjective *ἰδίᾳ*.

The possibility that Democritus used *φύσις* for "atoms" is discussed in this paper in the section on "element." The genuineness of all the ethical fragments attributed to him has been attacked, especially by Rohde.⁵ Zeller⁶ admits that the genuineness of any individual fragment is hard to prove, because so many rest on the sole authority of Stobaeus, but thinks that as a whole they give an impression of genuineness. More recent writers judge them still more favorably, particularly Diels, who includes most under the caption "Echte Fragmente," and Nestle.⁷ "Human nature" is once found,⁸ but referring to the physical union of soul and body, the separation of which causes death. This sentiment recurs several times in the orators. Democritus' prepositional phrases are discussed under the heading *κατὰ φύσιν*. Besides, *φύσις* is found nine⁹ times for the individual's qualities or character, moral or intellectual or both. These examples range all the way from those in which *φύσις* refers in the most general way to one's character at the time, no matter how its qualities were received or what their origin, to those in which *φύσις* as "talent, parts, capacity," as an original endowment are definitely opposed to *διδαχή* or *ἄσκησις*. These ideas are here found for the first

¹ Fr. 9.

² Fr. 1, Diels, I, 331, l. 2.

³ Fr. 1, Diels, I, 332, l. 4.

⁴ Fr. 2, Heidel, n. 98, and Diels translate "Wesen"; Burnet, p. 409, "substance."

⁵ *Kleine Schriften*, I, 215, n. 1.

⁶ 5th ed., I, 925, n. 1.

⁸ Fr. 297.

⁷ *Philologus*, LXVII, 549.

⁹ Frs. 3, 21 twice, 33, 176, 182, 183, 242, 277.

time. There is no reason to suppose that they were original with Democritus. We are told that διδαχή and φύσις have in the long run much the same result because qualities taught one are thereby made into one's character.¹ This is partly the same thought as that of Empedocles Fr. 110. And αἵσκησις is a more efficient cause of goodness than native talent.² Again, men are told not to strive to do things that are above their nature.³ To take this to mean merely "talent, original, native qualities," would be quite opposed to the whole trend of Democritus' opinions. When it is said that in adopting children men will usually adopt those whose characters are like their own,⁴ the word "characters" has a very general application.

¹ Fr. 33.

³ Fr. 3.

² Fr. 242.

⁴ Fr. 277.

CHAPTER IV

THE SOPHISTS

It will be well to collect here the few remains of the Sophists. The third fragment of Protagoras reads, φύσεως καὶ ἀσκήσεως διδασκαλία δέεται, with which may be compared a Syrian version of [Plutarch] π ἀσκήσεως, which quotes Protagoras as follows: "Nicht sprosst Bildung in der Seele, wenn man nicht zu vieler Tiefe kommt."¹ The third fragment is perhaps the earliest reference in philosophical or Sophistic literature to the much-debated question of the relative value of talent, study, and practice. Theognis² and Pindar³ are often said to represent the old aristocratic tradition which looked askance at education and training, and this is certainly true as far as any innovations in education might be concerned. But even Pindar in the eighth Olympian could praise the art of the athletic trainer and speak of the folly of one who would not submit himself to teaching. The discussion of this τόπος would be too lengthy for the purposes of this paper. Like the other Sophistic commonplaces, it is impossible to fix upon this or that Sophist as the champion of training or of talent. Anyone argued for one side or the other as suited the moment.⁴

¹ Fr. 11. Diels's translation.

² E.g., 429 ff.

³ E.g., O. 9. 100 ff.

⁴ The τόπος is found in one form or another in Eupolis Fr. 91; Epicharmus Fr. 33, who there favors μελέτα; Anon. Iamb. Fr. 1; *Dialexeis* Fr. 6; π τέχνης vi. 16, medical ability is possible οἷσι τὰ τε τῆς παιδείης μὴ ἐκποδῶν, τὰ τε τῆς φύσεως μὴ ταλαίπωρα; νόμος iv. 638 f., perhaps the earliest occurrence of the figure in which the pupil is compared with the soil to be cultivated, a figure recurring in Antiphon Or. Fr. 134; [Plut.] *De lib educ.* 2b, and Quintilian Proem 26, ii. 19. 2; Thuc. i. 121. 4; Democritus Fr. 242 favors ἀσκήσις, but in Fr. 33 shows how φύσις and διδασχὴ react on one another, for which idea cf. *Rep.* 424a and pp. 97 f. of this paper; Eur. *Bacc.* 315; *Hippol.* 79; Fr. *Phoenix* 810 favors φύσις, but in the list of advantages enumerated in *Supp.* 911 ff. φύσις is not even mentioned (see Nestle, *Euripides*, pp. 176 ff.); Plato *Meno* 70 ff.; *Phaedrus* 260d; *Rep.* l.c., etc.; Isoc. 13. 10-17; 15. 187-92, who seems to value φύσις more at the close of his career than at the beginning; [Plato] π ἀρετῆς 379b-d comes to the curious conclusion that neither talent nor instruction is of value, but only θεία μοῖρα; Xen. *Mem.* iii. 9. 1-3; Antisthenes in Diog. Laert. vi. 10; [Dem.] 61. 42; Ar. *Eth. Nic.* 1179b, 20; *Pol.* 1332a, 39; Dion. Halic. in Syrianus on Hermogenes' στάσεις in Walz, *Rhet. Gr.*, IV, 41; [Longinus] π ὕψους 36. 4, while in 2. 1 is found the striking phrase μία τέχνη, —τὸ πεφυκέναι which reminds one of Ruskin's "Be born a genius";

φύσις is found four times in the speeches attributed to Gorgias and acknowledged as genuine by Blass, but rejected by Jebb and many others. The *Palamedes* opens with the statement θάνατον ἡ φύσις κατεψήφισατο τῶν θνητῶν. This is interesting as a Sophistic commonplace often found in fifth-century literature and later. Euripides Fr. *Hypsipyle* 757 has

τί ταῦτα δεῖ
στένειν, ἄπερ δεῖ κατὰ φύσιν διεκπερᾶν;

In these places it may be questioned whether φύσις means human nature, separable at death into body which remains and soul which disappears, or general nature. The probability seems to incline toward the former. Gorgias is almost exactly paralleled by [Lysias] 2. 77 ff.: ἡ φύσις καὶ νόσων ἡττων καὶ γήρως. Here φύσις is certainly our human nature which is overpowered by disease and age. Again, Isocrates writes, 4. 84, ἐκείνων τὰ μὲν σώματα ταῖς τῆς φύσεως ἀνάγκαις ἀπέδοσαν, which must be compared with 2. 37, Μὴ περὶδῃς τὴν σαντοῦ φύσιν ἅπασαν ἅμα διαλυθείσαν. In the latter quotation surely, and probably in the former also, reference is made to human nature. Again, *Laws* 923b, πορεύεσθε ἥπερ κατὰ φύσιν νῦν πορεύεσθε τὴν ἀνθρωπίνην, where human nature is expressly mentioned, is to be compared with *Laws* 958d, γηράσαντι τελευτὴ γίγνεται ἂν κατὰ φύσιν, and *Timaeus* 81e, [θάνατος] μετὰ γήρως ἰὼν ἐπὶ τέλος κατὰ φύσιν ἀπονώτατος. There seems little difference in the use of φύσις in all these places. Democritus Fr. 297 has θνητῆς φύσεως. A comparison of all these places makes it seem probable that in all of them φύσις referred to some particular object. The prevalence of the idiom κατὰ φύσιν would give the sentences in which that idiom occurs a more indefinite tone, more like the κατθανεῖν ὀφείλεται of *Alcestis* 782 or the *debemur morti* of Horace *A.P.* 63. But even where this indefinite idiom is found I do

Alcidamas *Sophists* 3 ff.; *Eryxias* 398c; Cicero *Pro Caelio* 45; *Pro Archia* 1; Quintilian iii. 5. 1; Hor. *Ars Poetica* 408; Galen π διαγνώσεως v. 61, Kühn: ἐν τῇ χρόνῳ συχνῶ μετὰ τῶν ἀληθεστάτων ἀνδρῶν καὶ φύσιν συνετῶν καὶ γεγυμνασμένων ἐν θεωρίαις λογικαῖς, ὅποια τίς ἐστὶν ἡ ἀποδεικτικὴ μέθοδος, εἰθ', ὅταν πεισθῇ τις αὐτὴν εὐρηκέναι, μετὰ τοῦτο χρόνῳ πολλῷ πάλιν ἀσκηθῆναι . . . ; Hermogenes π ιδέων 1. 1; Maximus Planudes in Walz, *Rhet. Gr.*, V, 440, favors φύσις. Numerous parallels from the later literature are collected by Hobein in his note to Maximus of Tyre x. 4c and by Boeckh in his edition of Pindar, III, 195. Diog. Laert. has an interesting note in iv. 15: ποιηταὶ μὲν γὰρ ἐπιβαλλόμενοι πεζογραφεῖν, ἐπιτυγχάνουσι· πεζογράφοι δὲ ἐπιτιθέμενοι ποιητικῇ, πταίουσι· δῆλον τὸ μὲν φύσεως εἶναι, τὸ δὲ τέχνης ἔργον· On the whole τόπος see Shorey, *Φύσις, Μελέτη, Ἐπιστήμη*, in *Trans. Am. Phil. Assoc.*, XL, 185, who there comments at length on some verses of Simulus upon this topic and collects many parallels. See also *πεύσχημοσύνης* ix. 230.

not think there would be felt any specific reference to Nature as a universal, guiding, and directing force.

The same idea is contained in some later phrases with a modern sound, as: τὸ τῆς φύσεως ἐπιλελογισμένου τέλος¹ for death; τοὺς οὐ πολλὰ πρὸ τῆς φύσεως ἤκοντας ἐπ' αὐτόν (Cicero).²

The *Palamedes* also contains a sentence in which φύσις comes very near the meaning "instinct." The author says in section 15: δέονται χρημάτων . . . οὐχ οἱ κρείττονες τῶν τῆς φύσεως ἡδονῶν, ἀλλ' οἱ δουλεύοντες ταῖς ἡδοναῖς. The parallel shows that φύσεως has no very strong meaning and is largely rhetorical. As far as it has any definite meaning, it stands for "the pleasures of ordinary human nature" or "the pleasures to which instinct or impulse drives us." Probably it is the latter. It would in that case not be very different from St. Paul's "lusts of the flesh."

The *Helen* contains an instance³ of the common τόπος that the real nature of objects may be different from what we think or wish so that we misuse them. Gomperz thinks the τόπος original with Prodicus, but his only evidence is that drawn from the Platonic dialogues or the pseudo-Platonic *Eryxias* 397 ff. The character of that kind of evidence is elsewhere discussed. The τόπος is found in π διαίτης δέξων ii. 298 of foods which are good φύσει opposed to ἃ εἰθισμένοι εἰσίν; *Euthydemus* 281d; *Laws* 822b c; Isocrates 12. 223 ff.; Lycurgus Fr. 91; Aristotle *Eth. Nic.* 1113a, 20; 11170a, 21; *Eth. Eud.* 1248b, 26; and often.

φύσει and γένει in *Helen*, sec. 3, is a mere rhetorical parallelism.

In the *Anonymus Iamblichi* φύσει⁴ is once used adverbially, like κατὰ φύσιν, and once in the same fragment for the nature of an individual man, bodily and mental, almost like our "body" when loosely used for the whole personality, in a usage common in the *Hippocratica* and elsewhere.

The instances in the *Dialexeis* are elsewhere discussed.

¹ Epictetus in Diog. Laert. x. 133.

³ 15.

² Plut. *Comp. Dem. and Cic.* 5.

⁴ 6.

CHAPTER V

HERODOTUS AND THUCYDIDES

In Thucydides and Herodotus φύσις is found in a great variety of meanings. The idioms ἔχει φύσιν, κατὰ φύσιν, and χράσμαι φύσει are found and are elsewhere discussed.

Herodotus is fond of using φύσις as a general term to include all the characteristics and qualities of an object. He speaks of the φύσις χώρας,¹ ποταμοῦ,² πυρῶν,³ κροκοδείλων,⁴ of ἵπποι οἱ ποτάμιοι,⁵ ἄνθρωποι.⁶ This may be called the "natural history" use of φύσις. It will be recognized as the meaning of the word in the only Homeric instance. It is found in the *Hippocratica*⁷ and is often used by Aristotle⁸ in his books on animals. It is not infrequent elsewhere. If the theory of this paper is correct, this meaning, more than any other, deserves to be called the fundamental and original use of the word. Once Herodotus has φύσις for character as defined by birth,⁹ in the usage common in the tragedians. There are some examples of φύσις with comparatives which are interesting because they throw some light on one of the channels through which φύσις came to be used for the normal. Using a manner of expression only slightly different from the common idiom ἀμείνους αὐτοὶ ἐωντῶν, Herodotus speaks of the Danube as ὀλίγῃ μὲζον τῆς ἐωντοῦ φύσιος.¹⁰ The Carians are posted in battle with a river behind them, so that they might be ἀμείνους τῆς φύσιος and not run away.¹¹ At Delphi there appear two hoplites μείζονας ἢ κατ' ἀνθρώπων φύσιν.¹² In all these places φύσις stands for the usual qualities, the qualities that may be reasonably expected to appear. From this it is a short way to the "normal." "Human nature" is found three times.¹³

In Thucydides "human nature" is found several times. The plague is too much for human nature to endure.¹⁴ When human nature sets itself to accomplish an end, it is unrestrained by any law.¹⁵ As long as human

¹ ii. 5.

⁵ ii. 71.

² ii. 19. 35.

⁶ iii. 116.

⁹ vii. 134.

³ iii. 22.

⁷ E.g., π ἀέρων, ii. 90.

¹⁰ iv. 50.

⁴ ii. 68.

⁸ E.g., *De an. hist.* 550a6.

¹¹ v. 118.

¹² viii. 38. Macan says that this use of φύσις is poetical for φύνη, but the use of φύσις for the human body is common in the *Hippocratica*, Isocrates, and elsewhere.

¹³ iii. 65, 116; viii. 38.

¹⁴ ii. 50. 1.

¹⁵ iii. 45. 7.

nature remains unchanged, men will in time of stress lose their respect for others.¹ Human nature is stronger than law.² The idiom φύσει means human nature in vi. 16. 3, where Nicias says that he is naturally envied by his fellow-citizens, i.e., because of the characteristics of ordinary human nature. Pericles exhorts the women of Athens not to be inferior to the general standard of womanly conduct.³ Human nature is to Thucydides rather a gloomy prospect. It is the selfishness and greed that show themselves when plague or revolution tears away the mask of law and order that usually restrain those passions. It is the impulse to rule one's fellow—an impulse the removal of which is not to be expected. It is enough if it be leniently exercised. It is a law of human nature that man will rule where he has the power.⁴

Thucydides also uses φύσις for "talent," both in the usual rhetorical and Sophistic antithesis with διδαχή,⁵ μελέτη⁶, νόμος⁷ and without any antithetic word or phrase. He praises Themistocles as a man who manifested exceptional talent for affairs.⁸ Athenian seamen will not be able by study and training to gain the ability which to the Corcyreans is natural skill.⁹ On the other hand, Pericles in his funeral oration speaks of those who hear of a bravery superior to that of their own character.¹⁰ Here we are once more at the elementary meaning of φύσις.

¹ iii. 82. 2.² iii. 84. 2.³ ii. 45. 2.

⁴ v. 105. 2: τὸ ἀνθρώπειον . . . διὰ παντὸς ὑπὸ φύσεως ἀναγκαίας, οὗ ἂν κρατῇ, ἄρχειν. φύσις and ἀνάγκη are sometimes combined and sometimes opposed. φύσεως ἀνάγκη is probably first found in Eur. *Tro.* 886. It is also in *Clouds* 1075; Isoc. 4; 84: death comes ταῖς τῆς φύσεως ἀνάγκαις; π. διαίτης, Bk. I. vi. 484: πῦρ . . . διακοσμέεται τὸ σῶμα κατὰ φύσιν διὰ τοιήνδε ἀνάγκην, while in the same tract, p. 502, ἀνάγκη and φύσις are twice spoken of as distinct forces: (ψυχῇ) οὐκ ἀλλοιοῦται οὔτε διὰ φύσιν οὔτε δι' ἀνάγκην. σῶμα δὲ οὐδέποτε τῷτὸ οὐδενὸς οὔτε κατὰ φύσιν οὔθ' ὑπ' ἀνάγκης; π. σαρκῶν, viii. 614: τῆς φύσιος τὴν ἀνάγκην; ἀνάγκη φύσεως = ἔρως in Plotinus 29. 12, p.³30, l. 13, Kirchhoff; see also Basil Hom. I in *Hex.* 68, 70, 76. A similar phrase with like meaning is ἀνάγκην θείην in π. διαίτης, Bk. I. vi. 478; Gor. *Hel.* 20. The distinction noted in π. διαίτης, L. vi. 502, was worked up by Plato *Law*s 642c and Aristotle into a part of the doctrine of the four causes, for which see Newman, *Ar. Pol.*, I, 17.

For the idea of Thuc. v. 105. 2, Bismarck's *La force prime le droit*, cf. i. 76. 3; iv. 61. 5; Democritus Fr. 257; Gor. *Hel.* 6; Plato *Gor.* 483d, 490a, 492c; *Laws* 715a, 731e, 890a; Dio Prusa 3. 50; (Archytas) in Stobaeus, ed. Wachsmuth, III, 64. *Anon. Iamb.* Fr. 6 contains the opposite view.

⁵ i. 121. 4.⁶ i. 138. 3. See Shorey, *Trans. Am. Phil. Assoc.*, XXIV, 66 ff.⁷ iii. 45. 7; 84. 2; iv. 60. 1.⁸ i. 138. 3.⁹ i. 121. 4.¹⁰ ii. 35. 2.

CHAPTER VI

POETS OF THE LATER FIFTH CENTURY

In the poetry of the fifth century φύσις in both of its primary meanings is a very common word.

In the mind of Sophocles "birth" and "character" were very closely connected. In most of his plays character is something relatively stable and largely dependent on one's birth. The motif of the *Philoctetes*¹ lies in the difficulty experienced by Neoptolemus violating his native veracity. Even after the most strenuous efforts he cannot depart from his habitual truthfulness and deceive. This is the old-fashioned Greek conception so common in Pindar. Birth determines character.

So Sophocles sometimes uses φύσις where the confusion between the meanings "birth" and "character" is probably purposed and certainly complete. Electra says,² "If I am a girl that knows such ways, at least I do honor to my birth from you" or "I do honor to your character." Odysseus says to Neoptolemus, "I know that your character is such" or "I know that your ancestry is such."³ Either will translate the Greek. Both may have been in the poet's mind as he wrote. But the use of the common phrase φύσει πεφυκότα makes it seem that here, too, the word φύσει stands rather for "character," while the idea of "birth" is thought of as one aspect of the general character. This blending of meanings, with the emphasis rather on "character" or "qualities" than on "birth," is in Sophocles almost common enough to be counted a mannerism. It is found only once in Aeschylus and but a few times in Euripides. In all Sophocles' writings—and he uses the word far more frequently than either of the others—there are few sentences where φύσις means simply and alone "moral and intellectual character" with no reference to its

¹ Four times φύσις is thus used for the steadfast character of Neoptolemus—79, 874, 902, 1310.

² 609: εἰ γὰρ πέφυκα τῶνδε τῶν ἔργων ἔδρις,
σχεδόν τι τὴν σὴν οὐ κατασχύνω φύσιν.

³ *Phil.* 79: φύσει σε μὴ πεφυκότα τοιαῦτα φωνεῖν. Cf. also l. 874: εὐγενὴς γὰρ ἡ φύσις κάξ' εὐγενῶν, Neoptolemus' character is noble and his birth of noble sires; l. 902: τὴν αὐτοῦ φύσιν . . . λιπών τις, all things go awry when one abandons the character to which he's born; l. 1310: τὴν φύσιν δ' ἔδειξας . . . ἐξ ἧς ἔβλαστες, Neoptolemus shows the character (birth?) from which he has sprung. Sophocles is throughout speaking of the boy's qualities, but also of his ancestry.

origin. Perhaps the word is most nearly so used when it is a cognate accusative, as in *Ajax* 760: ὅστις ἀνθρώπου φύσιν βλαστών.¹ Jebb well translates by "born to man's estate." φύσις is used for the birth which defines one's social position,² one's family relations,³ age,⁴ sex,⁵ or of one's birth into the human race,⁶ but in all these places Sophocles is calling attention to the queenly character as well as to the queenly birth, to the youthful arrogance as well as to the youth of Haemon, to the timidity natural to womankind but overcome by Antigone and Ismene, to the limited nature of man's estate which could never rise high enough to decree the eternal laws of right and wrong.

In other lines of Sophocles φύσις is sometimes used in connections which preclude its referring to birth or even to the character that is the result of one's birth. One of the most conspicuous examples is in *Ajax* 549:

ἀλλ' αὐτίκ' ὠμοῖς αὐτὸν ἐν νόμοις πατρός
δεῖ πωλοδαμνεῖν, κάξομοιοῦσθαι φύσιν.⁷

The "character" here spoken of is the character that is the result of the exposure of Ajax' son to cruel sights. Oedipus answers the thought that he may be κακὸς φύσιν by alleging that all his crimes were done in ignorance.⁸ Obviously he is κακὸς φύσιν—that is, "base born"—if φύσις is

¹ Cf. also *Ajax*. 472 and Fr. inc. 739: ὅτι γὰρ φύσις ἀνέρι δῶ τὸδ' οὐ ποτ' ἀν ἐξέλοις, "What birth gives one, that can you never take away." This is more nearly a personification of φύσις than anything else in Sophocles. The personification is, however, merely poetical. There is no reason to assume that φύσις here stands for generalized Nature.

² *Ajax* 1259, 1301; Fr. *Aleadae* 84; *O.C.* 212; *Trach.* 379, if the emendation *δνομα* for *δμμα*, accepted by almost all modern editors, be allowed. Otherwise φύσις means "appearance," which breaks the connection of thought.

³ *Ant.* 659; *El.* 325, 1125.

⁴ *Ant.* 727; *O.C.* 1295: φύσει νεώτερος. For the form of the expression cf. the Latin *minor natu*.

⁵ *O.C.* 445; fr. *Tereus*, 524; *Trach.* 1062: θῆλυς φύσα κοῦκ ἀνδρὸς φύσιν, where the meaning of the MSS is unchanged by any of the many emendations proposed.

⁶ *Ajax* 760; *O.T.* 869; Fr. *Tereus* 531.

⁷ Perhaps because of the change of subject made necessary if ἐξομοιοῦσθαι retains its usual passive meaning (as in Eur. *And.* 354; Xen. *Oec.* vii. 32) Liddell and Scott wish to make the verb middle here, but Jebb is probably right in using the verb as passive. This makes the line mean, "He must become like me in nature," not "I must make his nature like mine." Cf. also *O.T.* 674: τοιαῦται φύσεις εἰσιν ἀλγισται φέρειν; *O.C.* 1194: ἐπωδαῖς ἐξεπᾶδονται φύσιν. Jebb translates "mood." Is it not rather Oedipus' real and permanent character that is to be charmed out of him?

⁸ *O.C.* 270. Stephanus translates, "natalibus nefariis," but this line seems entirely different from the outwardly similar line, 212.

to be interpreted as "birth"² or even as the qualities that are due to birth. He is not, however, a bad man, a man whose thoughts and intentions are evil, because his deeds were done unwittingly. These sentences and others like them are very significant. They show that even in Sophocles, however often he may blend the two meanings of φύσις, "birth" and "character," these two meanings yet remained so distinct that he could use the word in a connection which absolutely excludes all the connotations of the former. There is in Sophocles no instance of φύσις meaning "birth" which has not also a reference to the character of the person. There are at least the lines just quoted in which φύσις meaning "character" has no reference whatever to the origin of that character.

Other lines show that φύσις is sometimes used for those qualities which lie at the foundation of one's character, just as in English we speak sometimes of character as something fundamental, distinct from the superficial motives and transient moods of life, while sometimes we mean the whole intellectual and moral trend of a life, qualities that are passing as well as those that are permanent. It is in the narrower sense that Electra says¹ that even when she was little her character was the same as it is now, but her thoughts were less developed. Agamemnon speaks² of men born into "a human nature" who nevertheless think not as men should think. In these places there is implied the antithesis between character as given and character as the result of an individual's own thoughts and purposes. This is one of the countless forms, and one of the earliest appearances of the antithesis between νόμος and φύσις.

The Homeric and Aeschylean use of φύσις for "appearance," the outer, physical qualities that present themselves to the eye, is found in most of the writers of this period and is common throughout Greek literature. In almost all these sentences φύσις includes qualities that are the result of training or development, as well as those which are natural or inborn. Men ask for the "appearance" of Laius, so as to apprehend him.³ One of the finest examples is in a line spoken by the pedagogue in describing Orestes' race: δρόμου δ' ἰσώσας τῇ φύσει τὰ τέρματα.⁴ The line has been much commented on. Jebb accepts Musgrave's emenda-

¹ 1023.² *Ajax* 760.³ *O.T.* 740: Λάϊον φύσιν τιν' εἶχε φράζε.

⁴ *El.* 686. See also *Trach.* 308: πρὸς μὲν γὰρ φύσιν πάντων ἄπειρος τῶνδε, γενναῖα δέ τις, the last clause of which excludes the interpretation "age"; *Eur. Alc.* 174; *Bacchae* 54, also 1358, where, however, φύσιν is missing in the only MS, and was apparently inserted by the Aldine editor, on what authority is not known; *Fr. Belle-rophon* 290; *Aristophanes Fr. Aeolosikon* 5; *Birds* 1569; *Clouds* 276, 503; *Wasps* 1071; *Herodotus* 2. 5; 3. 116.

tion τὰφέσει on the ground that "the limits of the course cannot be compared to Orestes' splendid appearance before the race." Wecklein does not even notice this difficulty and retains the MSS reading, while admitting that the emendation is "elegans et probabilis." Schütz¹ rejects the emendation entirely, on the ground that it gives no good meaning. Ellendt defends the MSS. Dindorf is sponsor for the emendation. The figure is certainly bold, but clear enough, and, as it stands, is one of the most brilliant metaphors in Sophocles. Its character agrees well with the preceding elaborate description of Orestes as he enters the course. The comparison of outward appearance to exploits or character is common; e.g., Phrynichos is handsome and a fine dresser and therefore his dramas are fine:

ὁμοια γὰρ ποιεῖν ἀνάγκη τῇ φύσει²

φύσις is also used in many looser ways. It means "manners" or "ways of life" when Oedipus says of his sons:

ὦ πάντ' ἐκείνω τοῖς ἐν Αἰγύπτῳ νόμοις
φύσιν κατεκασθέντε καὶ βίου τροφάς.³

Meineke has rejected these lines as unworthy of Sophocles, but Schütz well pointed out that no fling at the Theban customs of Oedipus' sons could be more bitter than to call them Egyptian. Herodotus uses the very words in his description of Egypt and in referring to this very custom: τῆς Αἰγυπτίων φύσιος καὶ τῶν νόμων.⁴ There is also a line in the *Batrachomyomachia* where φύσις appears to have this meaning. The mouse speaks to the frog: τὸν εἰς φύσιν οὐδὲν ὁμοῖον.⁵ Again, in a fragment of Sophocles someone complains that his destiny is always changing its φύσις, just as the moon is always waxing and waning.⁶

ἀλλ' οὐμὸς αἰεὶ πότμος ἐν πυκνῷ θεοῦ
τροχῷ κυκλεῖται καὶ μεταλλάσσει φύσιν.

¹ *Soph. Studien*, p. 292.

² Aristophanes *Thesm.* 167; cf. also Pind. *O.* 8. 19; *N.* 3. 19; *I.* 7. 22: ἀγει τ' ἀρετὰν οὐκ αἰσχίον φνᾶς. Fennell interprets, "He holds virtue to be as fair a possession as fair physique," but this interpretation of ἀγει is certainly wrong. The line means he possesses valor no less fair than his physique; and, notwithstanding Jebb's strictures in the appendix to his *Electra*, the parallel with the *Electra* passage is good.

³ *O.C.* 338.

⁴ ii. 45.

⁵ l. 32. Campbell, ed. *Rep.*, II, 317, n. 1, says this means "natural endowments," and a scholium in Ludwich's ed., p. 224, adds καὶ γενεάν, but these interpretations give the wrong turn to the phrase. The context describes the manner of life of the mouse and points out its unlikeness to that of the frog.

⁶ Fr. inc. 787:

The most striking thing about Aristophanes' use of φύσις is the great frequency of φύσει as a dative of respect,¹ generally with so little meaning that it almost forms a periphrasis with the word that it modifies. He uses this idiom eleven times. φύσιν² is also found used in the same way, and once φύσις³ occurs. Together these are more than half the total number of instances in Aristophanes. In some of these lines φύσει acquires a more definite connotation because of its opposition to some other word or phrase. In *Birds* 371 the birds are "enemies by birth, but friends in their intentions." In *Clouds* 877 the boy is "naturally eager to know." In *Frogs* 1183 Oedipus is unhappy "in his very birth." But these are exceptions. In all the other examples quoted the use of φύσει might almost as well have been dispensed with. In some all reference to "origin" is precluded, as when Comedy is modest φύσει.⁴

Thesmophoriasusae 11 contains an example of that blending of meanings so common in Sophocles, where "character" and "origin" are both implied:

χωρὶς γὰρ αὐτοῖν ἐκατέρων ὅτιν ἡ φύσις
τοῦ μήτ' ἀκούειν μήθ' ὁρᾶν. εὖ ἴσθ' ὅτι.

"The constitution, or constitution as defined by origin, of the faculty of sight is different from that of sound."

In *Birds* 691 φύσιν οἰωνῶν γένεσίν τε θεῶν, φύσιν and γένεσιν are probably synonyms and mean "origin." This is one of the idioms in which the meaning of the verb φύω seems to be retained. It goes back to Empedocles Fr. 8. There is a scholium, καλῶς φύσιν εἶπεν οἰωνῶν καὶ γένεσιν θεῶν, which Rutherford interprets,⁸ "The poet well says φύσιν οἰωνῶν (origin of birds) but γένεσιν θεῶν (nativity of gods)."⁵ It is, however, very doubtful whether Aristophanes intended any such subtlety. The two corresponding verbs are often found together and are apparently used as mere synonyms. For instance, Xenophanes says: γῇ καὶ ὕδωρ πάντ' ἐσθ' ὅσα φύοντ' ἡδὲ γίνονται.⁶ Plato twice uses the combination—ἡ γίγνεται τε καὶ φύεται πάντα τὰ ζῶα⁷ and φύειν τε καὶ γεννᾶν καὶ τρέφειν προσετάρτετο ὑπὸ τῆς ὁμοίας ἀγωγῆς.⁸ In the speech on Helen attributed to Gorgias there is found φύσει καὶ γένει τὰ πρῶτα . . . ἡ

¹ *Birds* 37; *Clouds* 537, 877; *Frogs* 541, 700, 1183, where φύσει merely points a pun with πρὶν φθῆναι; *Lys.* 1037; *Plutus* 118, 279; *Thesmo.* 531, 752.

² *Birds* 685; τὴν φύσιν in *Birds* 371; *Clouds* 1187; *Knights* 518.

³ *Thesmo.* 1129.

⁶ Fr. 29.

⁴ *Clouds*, 537.

⁷ *Symp.* 197a.

⁵ Rutherford, *Scholia Aristophanica*, I, 480.

⁸ *Pol.* 274a.

γυνή.¹ The same nouns as in Aristophanes are found in Plato *Laws* 942c: τὴν τῶν οἰκείων ἀπολλύντας πύλων τε καὶ ὑποδημάτων γένεσιν καὶ φύσιν. Here the words form a periphrasis. It will be seen that the combination is always found in poetry or in poetical prose, such as the highly colored oratory of the supposed Gorgias or in a Platonic myth or in the construction of a fanciful Platonic law. Nowhere is there any distinction between the meanings of the two words. The use of the two words instead of one merely adds to the brilliance of the rhetoric. In *Laws* 886c, ὡς γέγονεν ἡ πρώτη φύσις οὐρανοῦ τῶν τε ἄλλων, in a highly poetical passage with several allusions to Aristophanes, φύσις is perhaps again used for "origin," as Jowett translates, although it may be a mere periphrasis. Mueller renders, "wie der Himmel und das Uebrige, seiner ersten Beschaffenheit nach, entstand." Jowett's rendering seems preferable. There is an apparent reference to poems like Hesiod's *Theogony* 116 ff. These poems describe the origin of the world and the things in it. Nothing is said of their primary essence. With that they were not concerned. In a rhetorical sentence describing a poetical, old-fashioned view of the world it is natural that Plato should use φύσις in a poetical, old-fashioned sense, such as "origin" seems to be.

The meaning "character" is often found, as might be expected, with various shades of signification. It stands for the moral character of an individual, base² or otherwise,³ or for the natural qualities or talents on which the Sophistic educators laid such stress,⁴ or for the worse qualities of men to which the predecessors of the Cynic temperament boasted that they gave free rein.⁵

In Euripides φύσις is used much as in Sophocles. But Euripides means by it "birth" far less frequently than Sophocles. "Birth" as

¹ 3.

² *Clouds* 352.

³ *Clouds* 960.

⁴ *Clouds* 486; *Frogs* 1115, 1451.

⁵ *Lys.* 545; *Clouds* 1075, 1078. The last is probably the earliest occurrence of the idiom χρῆσθαι φύσει. It does not in itself seem to have any sinister associations, although it is often used, as in the reference above, where such associations are implied in the context. It is used in *Her.* 7. 16 of a calm sea: πνεύματα . . . οὐ περιορᾷν φύσι τῇ ἑωυτῆς χρᾶσθαι. In *Thuc.* i. 76. 3 the Athenian ambassadors at Sparta think Athens deserving of praise because χρησάμενοι τῇ ἀνθρωπείᾳ φύσει ὥστε ἐτέρων ἀρχειν, they have ruled more justly than they might. In *Laws* 880e some laws are enacted because of those who have remained unaffected by their education, ἀπεράμονι χρωμένων τινι φύσει. In *Isoc.* 15. 229 evil men will not delay their evil deeds but εὐθὺς τῇ φύσει τῇ παρούσῃ χρωμένους. In *Theodectes* *Fr.* 8. l. 7 men unafraid of punishment τῇ φύσει χρώνται.

deciding one's position in society is found but twice.¹ φύσις = "character" is found in most of the familiar connotations. It stands for abiding and permanent qualities that influence one's choices,² for the fundamental qualities of character³ that may be opposed to such influences as divine inspiration⁴ or teaching⁵ and that resist one's own efforts to alter them,⁶ for pride of character,⁷ for the moral worth that is destroyed by self-indulgence;⁸ but it also means character as a whole, with no reference to originality or permanency, any qualities that may at any time distinguish one man from another.⁹ In this way it is paralleled with λήμα,¹⁰ τρόποι,¹¹ ἦθος.¹² It appears also as "talents," the qualities that distinguish clever men from weaklings,¹³ perhaps first so in Euripides. Weak and almost periphrastic instances occur, but not frequently. In Fr. *Bellerophon* 290 ἄνδρα ἰσχυρὸν φύσει almost = ἄνδρα ἰσχυρον. In *Orestes* 420 τὸ θεῖον δ' ἐστὶ τοιοῦτον φύσει almost = τοιοῦτον. This is the usage so frequent in Aristophanes and common in Plato and later writers. It is exactly similar to *Troades* 672, τὸ θηριῶδες . . . τῇ φύσει λείπεται, except that in the latter case there is much more emphasis on the words τῇ φύσει, while in the line from the *Bellerophon* φύσει might be omitted and the meaning of the line would be changed but little. In *Hippolytus* 377 κατὰ γνώμης φύσιν = κατὰ γνώμην = purposively.

In Euripides the way can be seen preparing for the use of φύσις for "human nature" with the psychological and moral associations of present-day language. In the phrase ἀνθρώπου φύσις, however, it is sometimes a mere periphrasis, like γνώμης φύσιν above. "No man is so unfeeling."¹⁴ "The poison has what potency against a man?"¹⁵ "No burden is so great that a man cannot endure it."¹⁶ "The altar of Persuasion is in man."¹⁷ "To weep for a friend lies fixed in the nature of man."¹⁸ "Why weep for death which we must pass through because of

¹ Fr. *Hypsipyle* in *Ox. Pap.*, VI; No. 852 Fr. 60. l. 24; *Iph. Aul.* 448. Once φύσις = the purely physical act of birth, Fr. *Erechtheus* 360 l. 38.

² Fr. inc. 904.

³ Fr. inc. 963.

⁴ *Bacc.* 315.

⁵ *Hec.* 598; *Hippol.* 79 unnecessarily bracketed by Dindorf.

⁶ Fr. *Chrysippus* 840; Fr. *Peleus* 617.

⁷ Fr. *Phrixus* 834; *Supp.* 884.

⁸ Fr. *Antiope* 187.

⁹ Fr. *Hypsipyle* 759; *Iph. Aul.* 930; *Med.* 1343.

¹⁰ *Heracleidae* 199.

¹¹ *El.* 390, 941; Fr. *Polyidos* 634.

¹² *Orest.* 3.

¹³ *Iph. Aul.* 558.

¹⁴ *Hec.* 296.

¹⁵ Fr. *Antigone* 170.

¹⁶ *Med.* 103.

¹⁷ *Ion* 1004.

¹⁸ Fr. *Phrixus* 834.

our human nature.”¹ Here there is a graduated scale of sentences, ranging from those in which φύσις is almost a mere periphrasis with ἀνθρώπου to those in which it has become the name for that abstract sum of qualities that go to make up a man’s life.

Further, Euripides uses φύσις for Nature, for the general and objective whole, the equivalent of δ κόσμος and τὸ ὅλον. Of the three places in which Euripides so uses φύσις the earliest datable, which is also the earliest datable instance in Greek literature, is *Troades* 886, where prayer is offered to Ζεὺς εἴτ’ ἀνάγκη φύσεος εἴτε νοῦς βροτῶν. The alternatives seem to be “natural law” and “human purpose” or “a mind like that of men.” There is here, then, a definite statement of the opposition between a teleological and a mechanical view of the world, although the teleology was probably of that imperfect kind so keenly criticized by Plato. In *Bacchae* 896:

τό τ’ ἐν χρόνῳ μακρῷ νόμιμον
ἀεὶ φύσει τε πεφυκός,²

is a protest in poetry against the Sophistical separation of νόμος and φύσις—a separation so earnestly opposed by Plato. According to Euripides in the *Bacchae*, both nature and convention are to be honored. Lastly, there is the fragment from an unknown play that so beautifully describes the blessedness of him who spends his days apart from the anxieties of public life: καθορῶν φύσεως κόσμον.³ Here for the first time Nature is spoken of as an object of study. The word is almost equivalent to “natural science.”

In the fragments of the minor poets of this century φύσις often occurs, but there is little that can help in tracing the history of the word or of the idea of nature. A fragment from a play probably written by Critias speaks of a self-originated being, πάντων φύσιν ἐμπλέξανθ’.⁴ Πάντων φύσιν here undoubtedly means “all Nature,” but it is to be noticed that the generalization is to be inferred from the context. The words taken by

¹ Fr. *Hypsipyle* 757.

² Nestle, *Euripides*, p. 429, n. 82, rightly objects to the interpretations of Wecklein and Bruhn, *Introduction to Bacchae*, p. 23, both of whom imply that what obtains through long time obtains the force of nature. The lines are an instance of the so-called polar construction discussed in the section on Plato.

³ Fr. inc. 910.

⁴ Fr. Eur. *Peirithoos* 593, assigned to Critias by Wilamowitz, *Eur. Analecta*, p. 166, and Diels, *Vorsokratiker*, II, 319. Nauck leaves the question open, but inserts under Euripides. The play may have been assigned to Euripides because of Critias’ disgrace.

themselves might as well mean "the nature of all the things that are," as the same words are apparently used, e.g., in *π διαίτης* Bk. I. vi. 486. Twice in these fragments φύσις means "talents." There is the often-quoted line from the *Philoctetes* of Antiphon the tragedian: τέχνη κρατοῦμεν ὧν φύσει νικώμεθα,¹ and a couplet from the comedian Eupolis:

πῶς γὰρ ἐγένον δίκαιος;
ἡ μὲν φύσις τὸ μέγιστον ἦν, ἔπειτα δὲ
κἀγὼ προθύμως τῇ φύσει συνελάμβανον.²

The word is also used in connections which seem to have no connotation of originality. Ion says that king wine shows us what things are good.³ Critias ridicules a popular god by saying that he "sports a character divine."⁴ Agathon Fr. inc. 21 speaks of φιλόπονοι φύσεις. Instances like these are common enough to show that there is implied in φύσις no necessary reference to the original character of the qualities denoted by the word, while in the quotation from Evenus⁵ such a reference is impossible.

¹ Fr. 4. For the sentiment, cf. *Laws* 892 b.

² Fr. 91, cf. Eur. Fr. *Phoenix* 810:

μέγιστον ἀρ' ἦν ἡ φύσις· τὸ γὰρ κακὸν
οὐδεὶς τρέφων εὖ χρηστὸν ἂν θέλῃ ποτέ.

³ Fr. 1, l. 12: τῶν ἀγαθῶν βασιλεὺς οἶνος ἔδειξε φύσιν.

⁴ Fr. *Sisyphus* 1, l. 19.

⁵ See n 4, p. 13.

CHAPTER VII

THE HIPPOCRATICA

In none of the writings coming from the fifth century is *φύσις* used more frequently than in the collection of medical tracts that has been gathered together under the name of Hippocrates. Much has been written of late years on the date of these writings, and there is yet no agreement as to the results of the labor that has been spent upon this problem. But a growing body of opinion has been inclined to refer the more important documents of the collection to the fifth century. Heidel,¹ Gomperz,² and Fredich³ are outspoken in their conviction of the correctness of this conclusion. While Poschenrieder,⁴ Wellman,⁵ Christ,⁶ and Diels⁷ are more conservative in their statements, agreeing that the collection was made about the middle of the fourth century, it is noticeable that all these scholars assign many tracts to the fifth century, and that in the fifth edition of Christ many more are so assigned than was the case in the fourth edition. It is manifestly impossible to date precisely any one of these writings, but taken together they give an impression of crudity of style and simplicity of thought which make it hard to refer them to any date later than the close of the fifth century. Perhaps it would be correct to say that, even if some of them were composed later, the minds of the authors were living in the thought of the earlier period, so that their testimony to fifth-century language and ideas would be of value. They seem to contain no reference to events or doctrines that are known to be later than that date. They are filled with discussions such as were carried on by the Sophists. Their science is that of Empedocles and Diogenes. There is apparently no reference to the peculiar teachings or methods of Socrates or his school. Moreover, for the purpose of the following pages it is peculiarly safe to treat the collection as a whole, because of the great frequency of the word and the similarity of usage found in the different writings, with the exception, of course, of some obviously late documents, as, for example, the letters.

¹ *Op. cit.*, n. 10.

² *Gr. Denk.*, I, 227.

³ *Hipp. Untersuch.*, p. 11.

⁴ "Aristoteles im Verhältniss zu den Hippokratischen Schriften," *Bamberger Programm*, 1887, p. 4.

⁵ *Fr. Gr. Aertze*, I, 51.

⁶ *Is*, 596.

⁷ Quoted in Gomperz, note on *loc. cit.*

In these documents the most frequent use of φύσις is almost equivalent to our words "constitution," "temperament." According to the differing constitutions of different patients must the physician vary his treatment, say the books repeatedly.¹ This is the same thought that is several times repeated in poetry, except that the φύσις with which the poets are concerned is not the physique; e.g., Euripides Fr. *Melanippe* 494:

τῆς μὲν κακῆς κάκιον οὐδὲν γίγνεται
γυναικός, ἐσθλῆς δ' οὐδὲν εἰς ὑπερβολὴν
πέφυκ' ἄμεινον' διαφέρουσι δ' αἱ φύσεις.²

The weaker "constitution" is more likely to succumb to disease or hardships.³ A healthy "constitution" has other needs than when diseased.⁴ Men's constitutions can be compared with landscapes, sometimes bleak and bare, sometimes well watered and covered with trees,⁵ and these "constitutions," including also mental and moral traits, are the product of natural surroundings and can be so explained,⁶ as can also the diseases incident to them, by intelligible causes, so that there is no need of reference to superstition.⁷ A "constitution" inclined toward pulmonary tuberculosis is more sensitive to the attack of that disease in the early summer than at any other time.⁸ Strong drugs must not be given when the "constitution" is weak.⁹ The seasons affect "constitutions" differently, some men being more healthy in summer, some in winter.¹⁰ Men's "constitutions" are plump because of an excess of the watery element.¹¹ These illustrations are sufficient to show in general the varied way in which the *Hippocratica* most commonly employ the word φύσις. This usage is found everywhere in the collection, in writings presumably the earliest as well as in those presumably the latest, in those destined for purely scientific readers and in those prepared for a popular audience, in those which definitely trace this "constitution" to a speculatively determined origin in certain elements and in those which boldly proclaim the utter futility of such an attempt.

¹ π ἀγμῶν iii. 440, 538; π ἀέρων ii. 58, 90; π ἀρθρων ἐμβολῆς iv. 94, 292; π ἀρχαίης ιητρικῆς i. 624; ἀφορισμοί iv. 486; π διαίτης Bk. III. vi. 592; π πυσῶν vi. 98.

² Cf. also *Iph. Aut.* 558: διάφοροι δὲ φύσεις βροτῶν διάφοροι δὲ τρόποι.

³ π ἀρχαίης ιητρικῆς i. 576, 596.

⁴ 586.

⁵ 56, 84, 90.

⁶ δ ἐπιδημιῶν Bk. I. ii. 604

⁷ π ἀέρων ii. 58.

⁸ 78-80.

⁹ π τόπων vi. 340.

¹⁰ ἀφορισμοί iv. 486; cf. π χυμῶν v. 496.

¹¹ π διαίτης ὑγίεινῆς vi. 74; cf. also π τόπων often.

Very frequently the "constitution" of an individual is traced to its supposed origin in the two pairs of opposites which proved so tempting to the earlier physiologists. The writer of *περὶ διαίτης* gives much attention to this speculative physiology. E.g., those who have a constitution composed of the rarest water and the driest fire will continue longest in good health, some to the age of forty years, some even to extreme old age.¹ If, however, the constitution be one composed of the wateriest fire and the densest water, the result is watery and hot, and such will suffer most in the spring and least in the autumn. These same differences of composition explain, not only physiological characteristics, but moral and intellectual as well.² The author of *περὶ ἀέρων* continually speaks of those with watery constitutions.³ It is a favorite idea that certain kinds of constitutions are peculiarly susceptible to particular diseases because of their composition.⁴ These places are explained by Foesius *Oeconomia*, "haec sunt ipsius corporis natura ex quibus corpus ipsum constituitur." This explanation is exactly the same as is given by Burnet to *φύσις* in the pre-Socratics. It seems that this interpretation is subject to the same objections here as there. There is no evidence that the writers of these tracts mean by *φύσις* the elements out of which human bodies are formed. Everywhere *φύσις* is used for the result of the mixing. It is the constitution produced by the mingling of the elements, not the elements that are mingled together. A much more accurate interpretation is that of Galen. He says that *φύσις* is equivalent to *τὴν ἐκ τῶν πρώτων στοιχείων κράσιν* and that this meaning is *τὸ κυριώτατόν τε καὶ πρώτον σημαινόμενον, ὃ καθ' αὐτὴν μάλιστα τὴν οὐσίαν ἐστὶ τῆς φύσεως*.⁵ This same equivalence between *φύσις* and *κράσις* is found in the *Hippocratica*.⁶ Sometimes, as in the *π φύσιος ἀνθρώπου*, the human constitution is thought of as composed of the four fluids. These are themselves the product of wet and dry, cold and hot, but the writer thinks it foolish to try to probe more deeply than the immediate physiological compounds. Often the *φύσις* of the body or of an organ is no more than its anatomical character. So in the passages from the *π ἀγμῶν* and the *π ἄρθρου ἐμβολῆς* cited in the section on *κατὰ φύσιν*. The *π τόπων*, a description of the parts of the body, begins as follows: *φύσις τοῦ σώματος*,

¹ Bk. I. vi. 508 f.² Bk. I. vi. 518.³ ii. 46, 50, 74.⁴ ἀφορισμοί iv. 480, 606; *π νούσων* Bk. IV. vii. 560; *π φύσιος ἀνθρώπου* vi. 42-52.⁵ *De Hipp. ἀφορισμοί* Kühn xvii. Pt. ii. 529, 565.⁶ *π γυναικείων* viii. 238: *Σκεπτέον δὲ καὶ τὰς φύσις*. There follows a discussion of physical characteristics based on the mixing of the four elements.

ἀρχὴ τοῦ ἐν ἱητρικῇ λόγου.¹ ἡ φύσις τῶν μητρώων² refers to the arrangement, size, and position of the organ. So φύσις is used for the constitution of women, sometimes fully expressed, ἡ φύσις ἡ γυναικείη,³ sometimes without the adjective, τοῦτο (τὰ καταμήνια) ἐν τῇ ἀρχῇ τῇ φύσει ὑπῆρξεν.⁴ Derived from this is the use of ἡ φύσις⁵ or of τὰ κατὰ φύσιν⁶ for the menses.

In all the foregoing connections φύσις may refer to any specific organ as well as to the body as a whole. It is oftenest so used in the most general way. The ἀδένες have a spongy nature.⁷ In the anatomy of the intestines (κατὰ τὴν τοῦ ἐντέρου φύσιν καὶ τὴν τῆς συμπίσσης κοιλίης) there are many parts so closely related (ἀδελφίξιας) that one cannot function without the other.⁸ The lung is like a honeycomb.⁹ The brain shows the characteristics of the νεῦρα.¹⁰ Like phrases are used of the σπλῆν,¹¹ the πόροι,¹² the ὀστέα,¹³ the μήτραι.¹⁴ Sometimes the composition of the organ is referred to, as is sometimes the case when the reference is to the body as a whole. In winter and spring the κοιλίαι are warmest φύσει, i.e., in composition.¹⁵ "Such is the φύσις of a good mind," says the writer of π διαίτης after explaining its composition from the four elements.¹⁶ Sometimes φύσις refers merely to the normal condition of an organ, as it often does to the normal condition of the whole body. Even those who have a straight throat φύσει, i.e., naturally, have difficulty in breathing if the second vertebra shifts inward.¹⁷ The head of the thigh and the neck of the joint are φύσει, normally, aslant.¹⁸

Likewise φύσις is used for the character of anything whatsoever—of a country, to which the characters of its inhabitants usually correspond;¹⁹ of water, which does not return to its original character after freezing and melting;²⁰ of the ingredients of bread, each of which has its own

¹ vi. 278; cf. the beginning of the μοχλικόν iv. 340: ὀστέων φύσις· δακτύλων μὲν ἀπλᾶ καὶ ὀστέα καὶ ἄρθρα, etc.

² π διαίτης Bk. I. vi. 504.

⁶ π ἀφάρων viii. 444; ἐπιδημιῶν Bk. VI. v. 356.

³ π παρθενίων viii. 466.

⁷ π ἀδένων viii. 556: φύσις (ἀδένοις) σπογγώδης.

⁴ π φύσιος παιδίου vii. 494.

⁸ π ἄρθρων ἐμβολῆς iv. 246.

⁵ ἐπιδημιῶν Bk. VII. v. 468.

⁹ π ἀνατομῆς viii. 538: φύσει τευθρηνηνίδης.

¹⁰ π ὑγρῶν χρήσιος vi. 124: τῆς φύσιος τῆς νευρώδους; cf. π ἄρθρων ἐμβολῆς iv. 94.

¹¹ π γυναικείων viii. 122.

¹² π διαίτης, Bk. I. vi, 522.

¹³ ἐπιδημιῶν Bk. II. v. 114; π ἐν κεφαλῇ τρωμάτων iii. 226; μοχλικόν iv. 340.

¹⁴ π διαίτης Bk. I. vi. 504.

¹⁷ π ἄρθρων ἐμβολῆς iv. 178.

¹⁵ ἀφορισμολ iv. 466.

¹⁶ Bk. I. vi. 518.

¹⁸ Same, 240: φύσει πεφυκώς.

¹⁹ π ἀέρων ii. 56, 90; π διαίτης Bk. II. vi. 528: χωρέων θέσιν καὶ φύσιν.

²⁰ π ἀέρων ii. 36.

δύναμιν καὶ φύσιν;¹ of drugs;² of the winds;³ of ox meat,⁴ which is ἀνυπέρβλητος.

It is not always certain just how much these writers include under the φύσις which they propose to discuss. The author of π φύσιος γυναικείης begins as follows: περὶ δὲ τῆς γυναικείης φύσιος καὶ νοσημάτων τάδε λέγω.⁵ This is the general topic of his discussion. Soon he analyzes this general topic: διαγινώσκειν τὰς τε φύσιος τῶν γυναικῶν καὶ τὰς ἡλικίας καὶ τὰς ὥρας καὶ τοὺς τόπους οὗ ἂν ᾖ. Plainly the meaning of φύσις is now limited. It now refers to the particular constitution of the individual as modified by its constituent elements, moist and dry, hot and cold.

Often, but chiefly in those books of the collection which are supposed to be of later origin, φύσις means simply "the body," not the qualities of the human physique, but the physique in which those qualities inhere; not the nature of the thing, but the thing itself. In one way this is parallel to the common and popular use of φύσις for one's moral or intellectual character, but practically it is much more concrete because the body seemed so much more tangible. It is almost exactly a parallel to the use of φύσις for outside Nature. Just as from a word which first stood for the qualities of things it became a word which stood for the things themselves in their totality, so from representing the physiological qualities of a human being it came to represent the body in which those qualities inhered. If the body does not of itself exhibit the excretions which are necessary for a diagnosis, art has discovered means which constrain it to do so.⁶ The bodies of all are untaught, φύσις πάντων ἀδίδακτοι, and yet perform their functions.⁷ The bodies of men are their physicians; the body itself finds out for itself the means, not with any exercise of intelligence. Winking is an example; the body is untaught and does what is required without ever having learned how.⁸ The body provides everything for everybody.⁹ τὸ μηδὲν τῇ φύσει πάθος γίνεσθαι means "that no mishap befall the body."¹⁰ Air is no food for the human body.¹¹ ὄργανα τοῖσιν ἣ φύσις ἀρπάξει τὸν ἥερα means "organs by which the body takes in air."¹² The body becomes the carrier of all the diseases of the physical frame.¹³ In all these places there is little or no question

¹ π ἀρχαίης ἰητρικῆς i. 600.

² π διαίτης Bk. I. vi. 468.

³ Same Bk. II. vi. 530, 534.

⁴ π διαίτης ὀξέων νόθα ii. 488.

⁵ vii. 312.

⁶ π τέχνης vi. 24.

⁷ π τροφῆς ix. 112.

⁸ ἐπιδημῖαι Bk. VI. v. 314.

⁹ π τροφῆς ix. 102.

¹⁰ ἐπιδημιῶν Bk. II. v. 102; π ἀδένων viii. 566.

¹¹ π καρδίας ix. 82.

¹² Same, 84.

¹³ Κωακαὶ πρωγνώσιες v. 700.

of the constitution of the body, nor of its origin, nor of the fact that different constitutions have a different composition or require a different treatment. Although with somewhat varying emphasis, φύσις is here just the human body, essentially alike in all and possessed of common attributes.

φύσις is often used for the nature of the race or "human nature," generally with the addition of some noun or adjective, such as ἀνθρώπου or ἀνθρωπίνη, but also without any such addition.¹ In the *Hippocratica* human nature always, I think, means the physical nature of men, the common physical characteristics of the race. Sometimes these are contrasted with the characteristics of species of animals or with those of the animal kingdom,² showing the crude beginnings of an attempt to study comparative anatomy³ or comparative embryology.⁴

It is often difficult and sometimes impossible to assert definitely whether human nature refers to the abstract conception of human nature or to the nature of any and every man, no matter who, or to the nature of some particular individual or class of individuals. Sometimes the reference is perfectly plain. When it is said that drugs should be used κατὰ φύσιν ἐκάστοισιν,⁵ the writer evidently means that the quantity should be proportioned to the physique of the individual patient. Another tract speaks in the same way of those οἷσι γάλα τροφή κατὰ φύσιν.⁶ Ἐπιδημιῶν Bk. I says that the physician must make his diagnosis on the basis of the common constitution of all men and from the particular constitution of the sick man.⁷ Human nature is here the abstract sum of the characteristics common to humanity. But when it is said that cheese cannot be harmful to all human nature because it does not affect all men unpleasantly,⁸ it is evident that all human nature means all men collectively and that πάσῃ τῇ ἀνθρωπίνῃ φύσει is almost synonymous with παντὸς φύσιν ἀνθρώπου γινῶναι δεῖ,⁹ which, though Littré translates "toute la nature humaine," seems to mean "all men" distributively. When it is said that hunger is a mighty foe of human nature,¹⁰ it makes absolutely no difference whether the phrase is translated "the constitution

¹ π διατρῆς Bk. I. vi. 486 without the article; 490 with the article. π ἀρχαίης ιητρικῆς i. 576, 578 with article; 620, 622 without article.

² π φυσῶν vi. 98: διαφέρει σῶμα [here=species] σώματος καὶ φύσις φύσιος καὶ τροφή τροφῆς.

³ π ἀρθρων ἐμβολῆς iv. 116.

⁷ ii. 670.

⁴ π φύσιος παιδίου vii. 530.

⁸ π ἀρχαίης ιητρικῆς i. 624.

⁵ π τῶπων vi. 340.

⁹ π διατρῆς Bk. I. vi. 468, 470.

⁶ π τροφῆς ix. 110.

¹⁰ π ἀρχαίης ιητρικῆς i. 584; see also 600, 602.

of a man" or "human nature." φύσις τοῦ ἀνθρώπου sometimes means "the nature of the individual man," his nature as it differs from others, as in the passages just cited from the *π διαίτης*, and is equivalent to *ἐκάστην φύσιν* on the same page. Sometimes the same phrase means "the nature of any and every man," as when it is said that the precursors of civilization began to mix and cook foods *πλάσσοντες πάντα πρὸς τὴν τοῦ ἀνθρώπου φύσιν τε καὶ δύνανμιν*.¹ *φύσις ἀνθρώπων* is also used in this latter sense. The nature of any and every man is like men sawing wood, both attracting and repelling foreign matter, just as one of the sawyers pushes the saw from him while the other draws it toward himself.² "In human nature there are seven ages"³ is at the same time another instance of this usage and perhaps the first example in literature of a fancy that has ever since found its place in the poetry of the world. Sometimes "human nature" is no more than the human body, as when the author of the *π φύσιος ἀνθρώπου* ridicules further inquiry into human nature than concerns the external qualities.⁴

This great variety of connotation makes the distinction between the nature of the species and that of the individual hard to draw and often removes the distinction altogether just because in a normal individual the two natures coincide. So φύσις comes to be used for the normal condition or the normal position of an organ or of the human body. In the anatomical books *κατὰ φύσιν* is frequently so used. Examples are given in the section devoted to *κατὰ φύσιν*. But examples are common enough outside that idiom. A brain may be *θερμότερος τῆς φύσιος* or *ὑγρότερος τῆς φύσιος*.⁵ This is paralleled in the same page by *παρὰ τὸ ἔθος* and *πεπόνθη πάθος παρὰ τὴν φύσιν ὃ μὴ ἔωθει*. *θερμαίνεσθαι παρὰ φύσιν* is contrasted with *ἐν τῇ ἐωθυίᾳ ψυχρότητι*.⁶ Eyelids are *παχύτερα τῆς φύσιος*.⁷ The bladder may be *θερμανθῆ μάλλον τῆς φύσιος*.⁸ 'Αι μήτραι *ἐς τὴν φύσιν τὴν ὑγίεινὴν μεταστέωσι*.⁹ The old Greek proverb, *μηδὲν ἄγαν*, receives this statement: *οὐ πλεονομή, οὐ λιμός, οὐδ' ἄλλο οὐδὲν ἀγαθόν, ὃ τι ἂν μάλλον τῆς φύσιος ᾖ*.¹⁰ The writers of the books on bone fractures and

¹ *π ἀρχαίης ιητρικῆς* i. 578; cf. *π φύσιος ἀνθρώπου* vi. 54.

² *π διαίτης* Bk. I. vi. 478.

³ *π ἐβδομάδων* viii. 636.

⁴ vi. 32.

⁵ *π ιερῆς νούσου* vi. 388; cf. *π τόπων* vi. 316: *ἐπὶ τὴν [ὃ πλεύνει] μάλλον ξηρανθῇ τῆς φύσιος*.

⁶ *π παθῶν* vi. 228.

⁷ *π ὀφθαλμῶν* ix. 156; cf. *π ιερῆς νούσου* vi. 386: the sun is *ἀμβλυωπότερα τῆς φύσιος*.

⁸ *π ἀέρων* ii. 38; cf. also *π γυναικείων* viii. 54.

⁹ Same, 14; cf. *π νούσων* Bk. I. vi. 190; *π ὑγρῶν χρήσιος* vi. 132: *ἐς φύσιν ἄγουσα*.

¹⁰ *ἀφορισμοί* iv. 470.

dislocated bones use expressions of this type more frequently than do any others. A bone may be crushed while yet remaining in its normal position,¹ or it may be crushed out of its normal position² and driven inward by the blow. This is equivalent to a similar use of *παρὰ φύσιν* and *παρὰ τὴν φύσιν*. In certain dislocations of the joints the muscles are strained out of their proper place.³ The physician must bring the parts to their right normal position and with fingers and bandage alike must straighten the parts that are dislocated and distended contrary to their normal position or condition.⁴ When a bone has been dislocated inward, the ball of the joint must be pushed back to its normal position.⁵ The normal position of the hip joint is where the head and neck of the thigh are.⁶ Bones are sometimes more, sometimes less, dislocated from their normal position.⁷ If the leg is used in its natural position, exercise strengthens it.⁸ These idioms appear also in Herodotus. In the winter the Danube is its usual size, only it becomes a little larger than usual because of the rains.⁹ If the Carians have the river behind them and cannot flee, they will be forced to be braver than their wont.¹⁰ Two hoplites larger than ordinary men pursued the spoilers of the temple of Delphi.¹¹ In the first two of these instances the comparison is made with what is customary to the individual and does not differ much from the

¹ π τῶν ἐν κεφ. τρωμάτων iii. 200: ἐν τῇ ἐνωτοῦ φύσει; cf. also 204 twice, 210; π ἄρθρων ἐμβολῆς iv. 236: ἐν τῇ ἀρχαίῃ φύσει.

² π τῶν ἐν κεφ. τρωμάτων iii. 204: ἐκ τῆς φύσιος; cf. also 210 twice, 214 twice, 218, 220 twice, 236, 248; π νούσων Bk. I. vi. 158: ὅτι ἂν τοῦ σώματος ἐκπέσῃ ἐκ τῆς φύσιος ὁρθῶς ἐς τὴν φύσιν τοῦτο ἀπῶσαι.

³ π ἄρθρων ἐμβολῆς iv. 146: ἀλλοιούμενοι καὶ ἐντεινόμενοι παρὰ φύσιν.

⁴ Same, 266: ὥσπερ κηροπλαστέοντα χρὴ ἐς τὴν φύσιν τὴν δικαίην ἄγειν καὶ τὰ ἐκκεκλιμένα καὶ τὰ συντεταμένα παρὰ τὴν φύσιν.

⁵ π ἀγμῶν iii. 546: ἐς τὴν φύσιν; cf. also π ἄρθρων ἐμβολῆς iv. 88, 118, 128, 130, 144, 154 twice, 166, 168, 264, 266. With these should be compared π ἀγμῶν iii. 554: ἐς τὴν ἐνωτοῦ φύσιν; 556 ἐς τὴν ἀρχαίην φύσιν; π ἄρθρων ἐμβολῆς iv. 128, 164, 292, 302.

⁶ Same, 246: ἡ γὰρ φύσις τοῦ ἰσχίου τοῦ ὀστέου ταύτης ἦ καὶ ἡ κεφαλὴ καὶ ὁ αὐχὴν τοῦ μηροῦ; cf. 258: ὑγαινοῦσα ἡ φύσις οὕτω πέφυκεν.

⁷ π ἄρθρων ἐμβολῆς iv. 262: ἀποπηδᾷ ἀπὸ τῆς φύσιος. Probably this is all that is meant by ἦν αἱ μήτραι προΐωσιν ἐξωτέρω τῆς φύσιος (π γυναικεῶν viii. 316) and ἦν αἱ μήτραι προέλθωσιν ἐξω τῆς φύσιος (π ἀφόρων viii. 460), although Fuchs and Littré translate by "genitalia feminea." Cf. π τόπων vi. 344: [αἱ ὑστέραι]. ὅπη ἂν ἐκ τῆς φύσιος μετακινήθῃσι, where Littré correctly translates "de sa position naturelle."

⁸ π ἄρθρων ἐμβολῆς iv. 252: ἐν τῇ φύσει διαίτῃται.

⁹ 4. 50: ὅσος περ ἐστὶ, ὀλίγῳ τε μέζων τῆς ἐνωτοῦ φύσιος.

¹⁰ v. 118: ἀμείνονες τῆς φύσιος.

¹¹ viii. 38: μέζοντας ἢ κατὰ ἀνθρώπων φύσιν.

ordinary idiom ἀμείνονες ἑωτῶν.¹ In the third example the reference is specific, to what is usual in the class "men." This is another example of the line of thought that led up to the use of φύσις for "normal." It referred to the characteristics of a class as a whole. Whatever corresponded with these characteristics was the usual, the normal, the expected, κατὰ φύσιν or ἔχει φύσιν.

φύσις is often translated as if it had been generalized and was used for universal Nature. This is quite certainly much less frequent than ordinarily supposed. In the *Hippocratica* it would be difficult to present a single passage in which φύσις can be shown to mean Nature as a whole. Certain idioms which may be an exception to the foregoing statement will be noticed later, but in most of the places in which φύσις is commonly translated Nature it means "human nature" or "the human body" or "an individual's constitution."

There is no doubt that φύσις often means "human nature as a whole" when used without the addition of ἀνθρώπου or any such equivalent word or phrase. In the π ἀρχαίης ἱητρικῆς it is said that early men made every preparation to satisfy the nature and the powers of man, because they supposed that, if those foods which were too strong for the body to assimilate were used, there would result pain and disease and death.² There can here be no question that φύσις unaccompanied means "human nature" or "the human body," it does not matter which. This π ἀρχαίης ἱητρικῆς professes to be written in untechnical language, and so it is. In it φύσις is used sometimes for "human nature," i.e., the physical qualities of mankind;³ sometimes for the individual, different temperaments of particular persons.⁴ In the latter case the temperament is never analyzed into constituent elements. The author is very firm in his convictions that no hard-and-fast distinctions of this kind are in anyway useful. Each individual person must be considered by himself. Formal classifications like that into the four temperaments are idle. His chief thesis is this: Just as primitive men changed the food of mankind from that which the beasts had used to that which was suitable for human nature, so the true physician will regulate his patient's food, drink, and exercise by considering what is suited to his particular constitution and his particular environment.⁵ In order to do this there is needed a knowledge

¹ viii. 86 and often.

² i. 578: πλάσσουντες πάντα πρὸς τὴν τοῦ ἀνθρώπου φύσιν τε καὶ δύναμιν, ἡγεύμενοι ὅτι ὅσα μὲν ἀν' ἰσχυρότερα ᾗ, οὐ δυνήσεται κρατεῖν ἡ φύσις. . . . Kuehlewein's text varies widely, but the differences are unimportant for the present purpose.

³ 584.

⁴ 576, 624.

⁵ 574-84.

of anatomy¹ and of the effect of various concrete foods or practices upon various concrete kinds of people.² It is useless to know what man is, how he first came into being, and of what he was made in the beginning. Such knowledge has no more to do with medicine than with painting. If gained at all, it can be gained only by empirical inquiries of the kind mentioned above and can be learned when one rightly understands true medicine. This last sentence is often taken to mean that a knowledge of Nature can be obtained only by a study of medicine or "from no other point of view than that of medicine."³ Nowhere in the whole essay is there any reference to the study of Nature as a whole. The author's purpose has no relation to such studies. The foregoing interpretation has forced Ilberg to delete τὴν ἰητρικὴν. If the sentence be interpreted as above, the text presents no difficulty. Moreover, to pass from a true knowledge of medicine to a knowledge of Nature is not in accordance with the teaching of the author. He explicitly says⁴ that knowledge of things in heaven and under the earth must be sought by means of "hypotheses," while true medicine is to him the very opposite of a "hypothesis." It is noteworthy that Empedocles wrote much on physiology, so that even the phrase καθάπερ Ἐμπεδοκλῆς ἢ ἄλλοι οἱ περὶ φύσιος γεγράφασιν may be used as has been suggested.

Between the one school of medicine which the writer opposes and the opposite the difference was one of method. The former believed in an abstract treatment of diseases, in rigorous classifications which grouped many particulars into general classes and laid much emphasis on the study of origins and causes. The author of π ἀρχαίη ἰητρικῆς maintains that these methods are absolutely worthless and impracticable and stands for a comprehensive observation of the facts of health and its causes and hindrances as outlined above. This distinction can in a general way be traced through most of the writings of the *Hippocratica* and is often referred to in the works of Plato and Aristotle.⁵ The most clear and exhaustive statement of the distinction is to be found in this treatise. The newer physicians were using the results of philosophic

¹ 626.³ Gomperz, *Gr. Denk.*, I, 241.² 620 ff.⁴ 572.

⁵ Most clearly in *Gor.* 500e ff., and *Laws* 720b ff. Also referred to in *Phaedrus* 270 ff.; *Gor.* 465a ff.; *Laws* 857d. Plato of course admires those who think a knowledge of φύσις essential. Cf. *Rep.* 525c, where Plato desires the guardians to know number μὴ ἰδιωτικῶς, ἀλλ' ὥς ἂν ἐπὶ θέαν τῆς τῶν ἀριθμῶν φύσεως ἀφίκωνται. See also p. 57, n. 8. Isocrates is inclined to ridicule this emphasis on φύσις in any branch of science; see 12. 240; *Διαλέξεις*, chap. 8, in a Sophistic way sounds the praise of this knowledge of φύσις.

study and hence came to be known as *φυσικοί*, those who emphasized the need of a physician's knowledge of *φύσις*, of the real but hidden factors of the human constitution. The representatives of the other school came to be known as the *ἐμπειρικοί* and emphasized the sufficiency of *ἐμπειρία*, the empirical observation of facts. It may almost be said that already there is a conflict between the principles of deductive and those of inductive science.

In the essay *περὶ διαίτης* there is an attempt to prove that the arts devised by men are all imitations of the functions of different organs of the body. In this section *φύσις* and *τέχνη* are constantly compared, but the *φύσις* is never anything else than the human body performing its normal functions. These are imitated by the conscious thought of the artisan. In the beginning of the passage, in true Heraclitean style, the author finds fault with the mass of mankind because they do not recognize the fact which he is about to explain. *τέχνησι χρεόμενοι ὁμοίησιν ἀνθρωπίνῃ φύσει οὐ γινώσκουσιν.*¹ Then he states that fact explicitly: *νόμος γὰρ καὶ φύσις, οἷσι πάντα διαπρησόμεθα, οὐχ ὁμολογέται ὁμολογόμενα. νόμον γὰρ ἔθεσαν ἄνθρωποι αὐτοὶ ἐωντοῖσιν, οὐ γινώσκοντες περὶ ὧν ἔθεσαν. φύσιν δὲ πάντων θεοὶ διεκόσμησαν. ἃ μὲν οὖν ἄνθρωποι ἔθεσαν, οὐδέποτε κατὰ τὸντοῦτο ἔχει ὁκόσα δὲ θεοὶ ἔθεσαν, αἰεὶ ὀρθῶς ἔχει.* Standing alone, these sentences are sufficiently awkward and obscure, but the author continues with thirteen separate illustrations of what he means. While the exact point of some of these illustrations is not always clear, yet it is perfectly plain that in each case he is comparing an art with an instinctive process of the human body. *φύσιν ἀνθρώπου,*² *φύσιος ἀνθρωπίνης,*³ *ἄνθρωπος,*⁴ *ἢ φύσις,*⁵ *δαίταν ἀνθρωπίνην,*⁶ *σῶμα,*⁷ are some of the expressions which are used to express the idea of bodily capacity. Most of them are practically synonymous. They show conclusively that the author is thinking, not of any generalized Nature, but only of the powers and faculties of the human body. He then closes the series of illustrations by recapitulating as follows: *οὕτω μὲν αἱ τέχναι πᾶσαι τῇ ἀνθρωπίνῃ φύσει ἐπικοινωνέουσιν.*⁸ These illustrations show that in the contrast between *φύσις* and *νόμος* which they explain the *νόμος* and *φύσις* "by means of which we do all that we do" are only the conscious but ill-adapted purposes which men have thought out for themselves and the collective processes of the human body, which is thought of as

¹ Bk. I. vi. 486 ff.

⁵ 490, 492.

² 488, 490.

⁶ 492.

³ 488.

⁷ 494.

⁴ 488, 490, 494.

⁸ 496.

including the forces that control mental life. φύσιν πάντων, then, means the nature of all things distributively, just as Philolaus and Plato speak of the φύσιν πραγμάτων.

An earlier sentence in π διαίτης should probably be interpreted in the same individual way. The writer has been listing a large number of apparent opposites which are really identical and at the same time opposite. He closes his list with these words: ὁ νόμος γὰρ τῇ φύσει περὶ τούτων ἐναντίος.¹ The περί is very weak, and the phrase is almost equivalent to a genitive. "Human conventions contradict the true nature of these things."

¹ 476.

CHAPTER VIII

Κατὰ φύσιν AND LIKE PHRASES

The meaning of κατὰ φύσιν, παρὰ φύσιν, ἔχει φύσιν, and φύσιν or τῇ φύσιν as an accusative of specification is generally limited to some particular object or used in a general, indefinite, idiomatic way like our "reasonable" or "naturally." Perhaps never in fifth-century literature and rarely later do these phrases contain a reference to universal natural law or to Nature as an idealized and universal force. There is no evidence that these phrases were favored by any sect or school of philosophy. They were idioms of the language, firmly imbedded in ordinary Greek at least as early as Herodotus. The author of the *Menoni* excerpts inserts an interesting archaeological note on κατὰ φύσιν.¹ τῶν ψυχικῶν παθῶν ἃ μὲν ἐστὶν κατὰ φύσιν, ἃ δὲ παρὰ φύσιν. παρὰ φύσιν μὲν διαθετικὸν ψυχῆς κατὰ κείνησιν ἢ σχέσιν παρὰ φύσιν, κατὰ φύσιν δὲ διαθετικὸν ψυχῆς κατὰ κείνησιν ἢ σχέσιν κατὰ φύσιν. αὕτη μὲν ἡ τεχνολογία τῶν ἀρχαίων ἐστὶν οἷς καὶ ἡμεῖς ἐπόμεθα. The writer evidently thought of the idiom as old and well established, and connected it with the individual nature of specific objects and not with general Nature.

Generally κατὰ φύσιν and παρὰ φύσιν have reference to the nature of some one particular thing, either an organ² or affection³ of the human body or the human body as a whole,⁴ an individual person,⁵ the position of an organ,⁶ natural species,⁷ the primal fire,⁸ or even artificial objects.⁹

¹ 2. 12-19.

² π ἀρθρων ἐμβολῆς iv. 266; π φύσιος ἀνθρώπου vi. 36; π ἐγκατατομῆς ἐμβρύου viii. 512, the head; *ibid.* 516, a membrane; π ἀρθρων ἐμβολῆς iv. 146, a muscle; π γυναικείων viii. 344, the womb; π διαίτης Bk. II. vi. 584, blood; *ibid.*, Bk. I. vi. 502, soul vs. body.

³ π ἐβδομάδων viii. 663, 667, fever.

⁴ π ἀδένων viii. 564; ἀφορισμοί iv. 474; π ἀρθρων ἐμβολῆς iv. 82, 86, 88, 122, 166, 182, 204, etc.; π τροφῆς ix. 104, 106; π φύσιν vi. 92; παραγγελλαι ix. 266.

⁵ π τόπων vi. 340; π τροφῆς ix. 110.

⁶ π ἀγμῶν iii. 470, 472; κατ' ἡτρεῖον iii. 308, 318; π φύσιος παιδίου vii. 532; π γυναικείων viii. 142, 144, 146, 280; the last five refer to the embryo.

⁷ προγνωστικὸν ii. 134 and ἀφορισμοί iv. 482, human beings; π τόπων vi. 338 and π φύσιος γυναικείας vii. 312, temperaments of the human body; π νούσων Bk. IV. vii. 546, a plant that will not bear transplanting from Africa to the Peloponnesus because its nature requires a specific amount of moisture; ἡμᾶς τοιαύτη ὥστε τρέφειν αὐτό = ἡμᾶς κατὰ φύσιν; cf. π φύσιος ἀνθρώπου vi. 44; ἀφορισμοί iv. 546, 548; ἐπιδημιῶν Bk. I. ii. 690; π φύσιος γυναικείας vii. 402; π γυναικείων viii. 48 (all five refer to the sexes); π διαίτης Bk. I. vi. 468, foods and drinks; *ibid.* 470, 520; Bk. II. 574, 576; Bk. IV. 648, 660, 662, all of physical exercise.

⁸ *Ibid.*, Bk. I. 484, 486.

⁹ π γυναικείων viii. 146.

One of the best illustrations of the ordinary use of these phrases is found in *π ἀγμῶν*.¹ The author is explaining the proper method of setting bones in the hand. He says that he is about to show the mistakes of physicians *περὶ τῆς φύσιος τῆς χειρός*. Here the author is certainly writing of the nature of a particular object. Later he speaks of one binding the hand in a certain way *νομίζων ἐωντῷ εἶναι τοῦτο αὐτῇ τὸ κατὰ φύσιν*, and of the same man's not knowing *ὅτι ἄλλο ἐν ἄλλῳ (ἔργῳ) τὸ κατὰ φύσιν σχῆμά ἐστιν*, and that *ἕτερα τῆς δεξιῆς χειρὸς σχήματα κατὰ φύσιν ἐστὶν καὶ ἕτερα τῆς ἀριστερῆς*.² Another is blamed because (*ὑπτίην*) *ἔχουσιν ἐπέδει τοῦτο νομίζων τὸ κατὰ φύσιν εἶναι τῷ τε χροὶ σημαινόμενος καὶ τὰ ὅστέα νομίζων κατὰ φύσιν εἶναι οὕτως*.³ He concludes his objections to this method of treatment with the words *οὕτω βίαιον τοῦτο τὸ σχῆμά ἐστιν*. Three other instances of the phrase occur in this discussion, and at its close the writer says *αὐταὶ . . . ἄγνοια τῆς φύσιος τῆς χειρός*.⁴ The use of *αὐτῇ* in the first example on p. 418 shows that at least in that instance the word *φύσις* was used in a particular sense. The physician in question thought that his method of bandaging was according to the anatomical nature of the hand. There is every reason to suppose that the meaning is exactly the same in each of the other instances. Both at the beginning and at the end of his list of improper methods of bandaging the hand the author states that he is describing faults due to the ignorance of just this "anatomical nature of the hand." The use of *κατὰ φύσιν* with the article as a noun⁵ shows that it was already a phrase which use had stamped with a definite, easily understood individuality of its own. This use occurs just where the particular reference of *φύσις* is the plainest. It refers to the nature of the human hand as a part of the human body and to that alone.

Again, the writer of *περὶ νόσων* Bk. IV says: *συνηθές ἐστι τῇ χολῇ τοῦτο τὸ χωρίον κατὰ φύσιν μάλιστα*.⁶ This is in evident parallel with the following: *ἡ κεφαλὴ . . . μετέχει πλείστων κατὰ φύσιν τὴν ἑαυτοῦ*.⁷ In neither place does *κατὰ φύσιν* mean "according to the laws of Nature," but "according to the nature of the organ" thought of as compounded of the four fluids. The point is one often made by the physicians. The organs or members of the body are composed of the four fluids in varying proportions. According to the preponderance in any part of one fluid

¹ iii. 414.² 418.³ 422.⁴ 426.

⁵ This is frequent; cf. *π ἄρθρων ἐμβολῆς* iv. 82, 86, 308; *π ἐβδομάδων* viii. 663; *π τόπων* vi. 338. Note the specialized use of *τὰ κατὰ φύσιν* for the menses: *π ἀφώρων* viii. 444; *ἐπιδημῶν* Bk. VI. v. 356. Here *φύσις* means the nature of women.

⁶ vii. 560.⁷ Cf. *π τροφῆς* ix. 98.

will be the susceptibility of that part to that particular fluid. φύσει is sometimes used in exactly the same way, e.g., on the same page: νοσεί (ὁ σπλῆν) ἀπὸ τῶν φύσει ἐόντων (ικμάδων). φύσει, like the κατὰ φύσιν above, refers to the nature of an individual organ. Speaking exactly, κατὰ φύσιν means "according to its nature" and φύσει "because of its nature," but in such idiomatic uses as these the two phrases differ only slightly, if at all, in meaning. The idea is similar to the notion of the early physicians that certain constitutions are peculiarly related to a particular season of the year or to some particular climate.¹ The expressions quoted above mean the same with or without the article. In the one case the writer is using the common idiom. In the other he is expressing the same thought more fully. In both cases the idea is the same as in the ἀφορισμοί: ἐν τῇσι νούσοισιν ἦσσαν κινδυνεύουσιν, οἷσιν ἂν οἰκείῃ τῆς φύσιος,² οἷσιν ἂν οἰκείῃ τῆς φύσιος καὶ τῆς ἡλικίης ἢ νοῦσος,³ where there is no doubt that φύσις refers to the individual's constitution.

A quotation from περὶ φύσιος ἀνθρώπου will show how little the presence or absence of the article was felt to change the meaning. Near the beginning of his essay the author says: ἐγὼ γὰρ ἀποδείξω, ἃ ἂν φήσω τὸν ἄνθρωπον εἶναι, καὶ κατὰ τὸν νόμον καὶ κατὰ τὴν φύσιν, ἀεὶ τὰ αὐτὰ ἐόντα ὁμοίως.⁴ Here there is no doubt that φύσις refers specifically to the nature of man. A little farther on the writer repeats his statement as follows: εἶπον ἃ ἂν φήσω τὸν ἄνθρωπον εἶναι, ἀποφανεῖν αἰεὶ ταῦτα ἐόντα καὶ κατὰ νόμον καὶ κατὰ φύσιν.⁵ The meaning of κατὰ νόμον καὶ κατὰ φύσιν is not here under discussion, but the abstract phrase without the article seems to be used in exactly the same particular sense, with just as little of the connotation of generalized nature, as is the surely definite phrase with the article.

Another peculiar use of this phrase by the same author points in the same direction. He says: τὸ φάρμακον . . . ἅγει ἂν αὐτέῳ κατὰ φύσιν μάλιστα ἢ τῶν ἐν τῷ σώματι ἐνεόντων.⁶ On the same page he illustrates his meaning as follows: ἔλκει ἕκαστον (φυτὸν) τὸ κατὰ φύσιν αὐτῷ ἐνὸν ἐν τῇ γῇ. On p. 46 twice and again on pp. 48 and 52 the same phrase recurs in the same connection with the dative. Κατὰ φύσιν is plainly equivalent to "like."⁷ The sentence means: the drug affects that within the body

¹ π χυμῶν v. 496; π νούσων Bk. IV. vii. 546.

² iv. 480.

³ iv. 606. This use is frequent in π ἀρθρων ἐμβολῆς. See iv. 82, 86, 88, 122, 182, 230, 236. Galen π ἀγμῶν ὑπόμνημα A Kühn XVIII. ii. 335 interprets *Hipp.* π ἀγμῶν iii. 412, αὕτη γὰρ ἡ δικαιοτάτη φύσις, by *οἰκειοτάτη*.

⁴ vi. 36.

⁵ *Ibid.* 40.

⁶ *Ibid.* 44.

⁷ Cf. προσφυῶς τῷ παλαίσοντι, Philostratus περὶ γυμναστικῆς 162, Jüthner; λέξιν προσφυῇ τοῖς πράγμασι, Dion. Hal. *De Thuc.* 5; τῶν δικαίων προσφύεις, Plat. *Ep.* 7. 344a.

which is most like its own nature, i.e., like itself. The meaning of *φύσις* is exactly the same as in *ἐναντίον αὐτοῦ τὸ φθινόπωρον τῇ φύσει ἐστίν*,¹ where *φύσει* quite certainly refers to the particular nature of the individual human body. Littré throughout the book translates *κατὰ φύσιν* in its particular signification, but on p. 36 he translates in a general meaning a sentence which seems to have exactly the same meaning as the others: *ὁκόταν (τὰ ἐν τῷ σώματι ἐνεόντα) ὑπ' ἀλλήλων παρὰ φύσιν θερμαίνηται*.

Similar is the use of *κατὰ φύσιν* for "suited" or "proper": *Ἐνταυτῇ ἡ ἐμβολὴ κατὰ φύσιν μάλιστα τῷ τρόπῳ τούτῳ τοῦ ὀλισθηματός ἐστι*.² This kind of setting is most suited to this kind of dislocation, i.e., is according to the nature of this kind of dislocation, or, expressed still more fully, is according to the anatomical nature of the (high) with reference to this kind of dislocation. On the next page the writer uses the same phrase absolutely: *καὶ ὁ κρεμασμός ἐγγύς τι τοῦ κατὰ φύσιν*; Suspension, too, is fairly suitable.

In all these connections *κατὰ φύσιν* can be shown to have reference to the particular nature of some one thing, while probably nowhere in the *Hippocratic* collection or before it can the phrase be shown to have a necessary reference to general nature. This seems to show that, while to us "normal" or "ordinary" imply the co-working of natural forces, the result of the action of a generalized natural law, to these writers *κατὰ φύσιν* meant first and chiefly the normal working out of some specific organ or organism. There is no evidence that in these books the phrase was ever consciously used to mean more than this. They did not consciously mean to deny all reference to the generalized forces of nature. To say that would be to force upon their minds a distinction which there is no reason to suppose was clearly present. The distinction is later than they. But of the two senses in which the phrase might today be used, the particular alone seems to have been consciously in their minds.

In interpreting the *ἀφορισμοί* Galen offers some instructive comments on *παρὰ φύσιν*. They show how one of the later Greeks who had an especially critical mind tried to understand the exact sense of a writer of whom he thought as one of the ancients. In each of the three places in which that phrase occurs Galen raises the question whether Hippocrates meant *ὑπερβαλλόντως* or *παρὰ τὴν τῆς ἐαυτοῦ φύσιν*. On *τροφὴ πλείων παρὰ φύσιν*³ he concludes that *ὑπερβαλλόντως* would be redundant and that it is not in the manner of the early physicians to emphasize so much. *Πλείων* alone would be enough. He thinks that *παρὰ φύσιν* must either mean

¹ vi. 48.

² π ἀρθρων ἐμβολῆς iv. 306 f. several times.

³ iv. 474.

"more than the individual can endure or is accustomed to" or that it refers to the food and means too much unnatural food, e.g., poisons.¹ Fuchs and Littré agree with Galen's first interpretation. Galen thinks that *παρὰ φύσιν λεπταί*² may mean either *ὑπερβαλλόντως* or *παρὰ τὴν τῆς ἐαυτῆς φύσιν*, while incidentally noting that Noumesianus had favored the more definite meaning.³ He thinks that the exactly similar *ὀκόσαι παρὰ φύσιν παχεῖαι ἐοῦσαι*⁴ is probably the same as the adverb *ὑπερβαλλόντως*.⁵ Galen seems to have tried every suggestion, even those which must have seemed wide of the mark. His hesitancy to pronounce an absolute decision is certainly commendable while the reasons he offers are curious enough. It is noteworthy that he never even hints that the phrase may connote the influence of general Nature.

Sometimes the phrase becomes so indefinite as to lose all particular reference to any single object. It can then be best translated by "as one might expect" or "naturally." In the *περὶ ὁστέων φύσιος*⁶ the author is describing the anatomy of a vein: *Ἀποσχίδας (ἢ αἰμόρρους) ἔχει παρ' ἐκάστην πλευρὴν παρατεταμένης κατὰ φύσιν*. He does not mean to assert that it is in the nature of a vein to lie in the manner described, nor in the nature of a man's side to possess such veins. All that he can mean is that, given the elements mentioned, they are disposed in a manner requiring no special description, in a "natural" manner. In the fifth-century literature it is not often that this indefiniteness need be assumed. It is generally easy enough to see that there is involved a special reference to some particular object. Perhaps this is the only example in the *Hippocratica* where such reference is lacking.

Examples have thus far been drawn from the *Hippocratica* alone because of the extent of that literature and the frequency of this idiom and the directness of the evidence for its meaning. But in other fifth-century literature *κατὰ φύσιν* is not nearly as rare as has sometimes been assumed.

The two fragments of Heraclitus in which this phrase is found are both too incomplete to admit of very precise interpretation. Toward the beginning of his book he used these words: *διαιρέων ἕκαστον κατὰ φύσιν καὶ φράζων ὅπως ἔχει*.⁷ Does this mean dividing each thing (1) according to the general laws and principles of Nature or (2) according to its own nature, or may it mean merely (3) "as it ought to be divided or

¹ *De Hipp. ἀφ.*, ed. Kühn XVII, Part 2, pp. 478 f.

² *iv.* 546.

⁵ *Gal. op. cit.*, p. 839.

³ *Gal. op. cit.*, p. 837.

⁶ *ix.* 172.

⁴ *iv.* 548.

⁷ *Fr. i.*

explained"? Benn¹ translates in the first way, as his theory necessitates. Hardy's elaborate definition of this φύσις is quoted on p. 63. Zeller² thinks ἀρμονίη ἀφανής an equivalent expression. Heidel³ makes Heraclitus promise to explain both the general law or cause (κατὰ φύσιν?) and the proximate particular cause (ὅκως ἔχει?). But the authorities are divided. Diels, Fairbanks, Burnet, Nestle,⁴ all translate in the second of the three ways mentioned. Although an absolute decision is perhaps impossible, this latter translation seems much the more likely. This would be the inference from general usage. The two clauses appear to be parallel and not antithetic. "Ὅκως ἔχει seems to explain κατὰ φύσιν. It is even questionable whether the phrase contains any occult philosophical meaning at all. It may be an example of the idiomatic and indefinite use referred to above. In the absence of any proof to the contrary, no interpretation of the passage should import into the phrase any meaning more detailed than this.

Fragment 112 reads: τὸ φρονεῖν ἀρετὴ μέγιστη, καὶ σοφίη ἀληθία λέγειν καὶ ποιεῖν κατὰ φύσιν ἐπαίοντας. The fragment is bracketed by Bywater, deleted by Fairbanks, questioned by Zeller⁵ and Schleiermacher.⁶ Only the last gives his reason: "Sie scheinen eher einer später gemachten Sentenz zu gleichen, welche einen herakleitischen Gedanken ausdrücken wollte und das rechte nicht treffen konnte. Die Nachbarschaft ächter Stellen thut diesem Verdacht, der freilich auf dem blossen Gefühl beruht und sich ohne Stütze selbst durchhelfen muss, keinen Eintrag." Surely this is a rather indefinite reason for condemning so striking a line. The thought at first sounds Stoic, it is true, but in fragment 1 Heraclitus combines knowledge and action, and there is a parallel in the Διαλέξεις⁷: ὁ περὶ φύσιος τῶν πάντων εἰδώς, πῶς οὐ δυνασέεται περὶ πάντων ὀρθῶς καὶ πράσσειν; There seems no good reason for condemning the saying. The parallel from the Διαλέξεις gives a particular and distributive meaning to κατὰ φύσιν, but such parallels by no means prove that a word once used distributively is always so used in the same connection. It is translated "according to Nature" (the Stoic phrase) by Nestle,⁸ Diels, and Fairbanks.

In Herodotus' history the priest who is examining bulls suitable for sacrifice κατοραῖ καὶ τὰς τρίχας τῆς οὐρῆς εἰ κατὰ φύσιν ἔχει πεφυκνίας.⁹

¹ *Archiv. f. Ges. d. Phil.*, IX, 47, 48.

⁴ *Die Vorsokratiker*, p. 113.

² *Phil. d. Gr.*³, I, 665, n. 1 end.

⁵ *Op. cit.*, I, 725, n. 3.

³ *Op. cit.*, n. 57.

⁶ *Phil. Schriften.*, II, 479.

⁷ 8. 2.

⁸ *Op. cit.*, p. 114.

⁹ ii. 38.

This does not mean "whether they are made so by nature,"¹ but "whether they have grown according to the nature of bulls," i.e., whether the hairs are single or double.² With this cf. viii. 38: δύο ὀπλίτας μέζοντας ἢ κατὰ ἀνθρώπων φύσιν.

The orator Antiphon offers several excellent examples of the specific use of this prepositional phrase. Because of calamity and need men are forced to speak and act contrary to their true characters.³ It is not involved in the very nature of youth that a young man should be insolent as it is involved in human nature that one should see or hear.⁴ It is natural to men to see what is before their eyes. It is not natural to them to heed it.⁵

In the so-called ethical fragments of Democritus κατὰ φύσιν is twice used, both times with a specific reference. Men who adopt children are wiser than those who have children of their own, for the child that is adopted because it pleases one will probably resemble one in disposition.⁶ All animals instinctively desire young.⁷ In the same fragment ἀπὸ φύσιος is used as a synonym of κατὰ φύσιν: Men instinctively think it necessary to have children.⁸ This fragment closes with a sentence which makes clear the specific reference of the prepositional phrases: ἡ μὲν φύσις τοιαύτη πάντων ἐστὶ ὅσσα ψυχὴν ἔχει. Diels's "der Natur gehorchend" and "von Natur" and Nestle's "ein Naturgesetz,"⁹ all seem to point to universal Nature, although the first two might possibly be ambiguous. For ἡ φύσις both Nestle and Diels translate "natürlichen Gebaren" or "Instinkt." But there seems no good reason to suppose any difference between these three instances of φύσις in the same paragraph nor much difference between this and the preceding fragment. All four seem to refer to individual character, Fr. 277 to the character as a whole and Fr. 278 to instinctive impulse.

¹ As Liddell and Scott interpret. There is no reason to suppose Herodotus was thinking of Nature as an active force.

² Cf. iii. 28: ἐν δὲ τῇ οὐρῇ τρίχας διπλᾶς.

³ 2. 2. 1: παρὰ φύσιν λέγειν καὶ δρᾶν βιάζονται; same phrase in 2. 3. 1.

⁴ 3. 4. 2. A frequent τόπος. Democritus 183; Isoc. 6. 4, 11. 50, *Euthyd.* 273a; Anax. *Rhet.* 69. 15 Hammer: ῥητέον δὲ (by the young man apologizing for making a speech) καὶ ὡς εἰ μήπω καθ' ἡλικίαν τὸ φρονεῖν, ἀλλὰ κατὰ φύσιν καὶ ἐπιμέλειαν.

⁵ Fr. 71: παρακείμενα αἰσθάνεσθαι κατὰ φύσιν ἡμῖν, παρὰ φύσιν δὲ τὸ φυλάσσειν.

⁶ Fr. 277: μάλιστα κατὰ φύσιν ἐποίτο.

⁷ Fr. 278: ἐκγόνα κτᾶται κατὰ φύσιν.

⁸ ἀνθρώποισι τῶν ἀναγκαίων δοκεῖ εἶναι παῖδας κτήσασθαι ἀπὸ φύσιος.

⁹ *Op. cit.*, p. 177.

Twice in Thucydides *παρὰ φύσιν* has a specific reference, although in both cases the meaning is so weakened that it has become purely adverbial and idiomatic. The women of Plataea showed an endurance of the horrors of war "beyond their nature" or "extraordinary."¹ Alcibiades' foolishness, he says ironically, is thought to be "beyond the possibilities of human nature" or "monstrous,"² vaguely and idiomatically.

Other phrases than *κατὰ φύσιν* are used in a like manner. **ἔχει φύσιν* can be used (1) in the literal sense of "keeping, preserving" its "character or nature."³ In this use *φύσιν* is generally modified by an adjective or introduced by an article. Most commonly the phrase means (2) "having, possessing" some "character or nature."⁴ Here, too, an article or adjective or genitive is often found, but there are sentences in which *ἔχει φύσιν* alone seems to be used in this way with a definite reference to some particular nature.

Or *ἔχει φύσιν* may mean (3) "be normal, fully developed" as explained by Aristotle: *ὅσα φύσει ἐστὶν ἢ γίγνεται, ἤδη ὑπάρχοντος ἐξ οὗ πέφυκε γίγνεσθαι ἢ εἶναι, οὕτω φαινόμεν τὴν φύσιν ἔχειν, ἐὰν μὴ ἔχῃ τὸ εἶδος καὶ τὴν μορφήν*⁵ and used by him in the *Elhics*: *πάντα ψυχῆς ἕξις, ὅφ' οἷον πέφυκε γίνεσθαι χείρων καὶ βελτίων, πρὸς ταῦτα καὶ περὶ ταῦτα τὴν φύσιν ἔχει*.⁶

¹ iii. 74. 1.

² vi. 17. 1. Jowett translates "monstrous," Spratt "preternatural," Classen "überschreitend jede natürliche Ordnung." There is no reference to natural law.

³ *Soph.* 258b: *τὸ μὴ δὲν βεβαίως ἐστὶ τὴν αὐτοῦ φύσιν ἔχον*; *Gor.* 524b: *τὸ δὲ σῶμα τὴν φύσιν τὴν αὐτοῦ ἔχει*; cf. also *π* ἀρθρων ἐμβολῆς iv. 238: *ὁστέον παρακεκλιμένην τὴν φύσιν ἔχον*.

⁴ *π* *ιερῆς νοῦσου* vi. 352: *φύσιν μὲν ἔχει (ιερῆ νοῦσος) ἦν καὶ τὰ λοιπὰ νοσήματα*. The same sentiment is found on p. 364. Cf. also p. 394: *φύσιν δὲ ἔχει ἕκαστον καὶ δύναμιν ἐφ' ἑωυτοῦ*; *π* *διαίτης* Bk. II. vi. 530: *περὶ πνευμάτων ἡντινα φύσιν ἔχει καὶ δύναμιν ἕκαστα, φύσιν ἔχει τὰ πνεύματα ὑγραίνειν*; p. 560: *ὁκόσα ὑγρὴν φύσιν ἔχει*. In Bk. I. 470 *πεφύκασι* is used with exactly the force of *ἔχει φύσιν* above; *π* *ἀρχαῆς ἱητρικῆς* i. 586: *τῶν ὑγιαίνοντων φύσιν ἔχων*; *ibid.*, 600: *ὦν (the ingredients of bread) ἕκαστον ἰδίην δύναμιν καὶ φύσιν ἔχει*; *π* *ἐπικυήσιος* viii. 484: *τὰ λευκὰ τῶν ὀφθαλμῶν οὐκ ἔχει τὴν φύσιν τῆς λευκότητος*. Similar constructions are very numerous. Cf. *Alcestis* 780: *τὰ θητὰ πράγματα ὀίδας, ἦν ἔχει φύσιν*; *Alcidamas Sophists* 28; *Gor. Hel.* 15: *ἀ γὰρ ὀρώμεν ἔχει φύσιν οὐχ ἦν ἡμεῖς θέλομεν, ἀλλ' ἦν ἕκαστον ἔτυχε*. *φύσις* is here very weak, almost a pure periphrasis; *Lysias* 19. 63; *Crat.* 387d; *Pol.* 264a; *Laws* 897c, d, 958e; *Isoc.* 4. 8; 8. 103; 15. 221, 263; *Ar. De part. an.* 655a15: *οὕτω γὰρ ἔχει ταῦτα σκληρὰν τὴν φύσιν*; *ibid.*, 670a6; *De gen. an.* 761a34; *Met.* 983b27, 1032a23; [*Prob.*] 904a23—in all of which the thought might have been expressed by a phrase like *Isoc.* 12. 134: *αἱ φύσεις καὶ δυνάμεις τῶν πολιτειῶν οὕτως ἔχουσιν*, or *Arist. De plantis* 823b2: *φύσις γὰρ ἐστὶ τοῦ ὕδατος ὑπεράνω βαλνείν τῆς γῆς*.

⁵ *Met.* 1015a5.

⁶ *Elh. Nic.* 1104b20.

This is one way in which there appears Plato's use of φύσις for the ideal. Indeed, Plato has even the phraseology: αἱ δὲ πράξεις ἐφάνησαν ἡμῖν οὐ πρὸς ἡμᾶς οὔσαι, ἀλλ' αὐτῶν τινα ἰδίαν φύσιν ἔχουσαι;¹ φύσις here connotes objectivity or non-relativity. This technical and philosophical use is connected with the ordinary phrases in which φύσις is used for the normal. Examples of κατὰ φύσιν in this meaning have just been given. Περὶ ἀέρων contains an early example of ἔχει φύσιν meaning "has its own natural explanation, is normal not miraculous," in the celebrated page discussing the Ἀναριεῖς of Scythia:² ἐμοὶ δὲ καὶ αὐτῷ δοκεῖ ταῦτα τὰ πάθεα θεῖα εἶναι καὶ τᾶλλα πάντα καὶ οὐδὲν ἕτερον ἑτέρου θειότερον οὐδὲ ἀνθρωπινώτερον, ἀλλὰ πάντα ὁμοῖα καὶ πάντα θεῖα. ἕκαστον δὲ αὐτῶν ἔχει φύσιν τῶν τοιούτων καὶ οὐδὲν ἄνευ φύσιος γίνεται. Then follows the writer's explanation of the true nature of the disease, which he concludes with the triumphant assertion: γίνεται δὲ κατὰ φύσιν ἕκαστα. The text is doubtful, but the best sense is made by dropping the difficult τῶν τοιούτων and translating "each of them is perfectly normal, and nothing happens miraculously. Everything happens normally, naturally." Ἄνευ φύσιος is perhaps unique, but seems to be used as the equivalent of παρὰ φύσιν.³

There are also (4) a sufficient number of instances of an idiomatic use parallel to the indefinite use of κατὰ φύσιν. This is closely connected with the usage quoted from π ἀέρων and is only a weaker and more general form of the same thing. Herodotus says that the story about Heracles killing thousands upon thousands of Egyptians is "not reasonable."⁴ Death shows that all things "may be expected"⁵ to change as

¹ *Crat.* 387d.

² ii. 78.

³ The text as printed contains both variants. Most MSS omit αὐτῶν. It seems as if τῶν τοιούτων had been misplaced. If it occurred in place of αὐτῶν, there would be no trouble, and such a misplacement need cause no astonishment in this rugged Greek. Wilamowitz in *Phil. Unter.*, IX, 103, emends τῶν τοιούτων to τὴν ἐνυπνοῦ. The reading has been adopted by Kühlewein. This reading is obtained from π ἱερῆς νούσου vi. 394, quoted above. The emendation seems an unnecessary effort to make the two passages synonymous, whereas the sense is quite different. In π ἀέρων the writer is showing the similarity of all diseases. In the π ἱερῆς νούσου the author points out that each disease has a distinct and individual explanation. A more exact parallel to the sentence in π ἀέρων is found in π ἱερῆς νούσου vi. 352, quoted above. Cornarius and Coray add ἰδίην after φύσιν, thus providing essentially the same meaning as Wilamowitz. Heidel, *op. cit.*, p. 93, translates, "its natural cause."

⁴ ii. 45: κῶς φύσιν ἔχει;

⁵ π ἐπιταμῆνον vii. 450: ὁ θάνατος . . . παράδειγμα . . . ὅτι πάντα φύσιν ἔχει . . . μεταβολὰς ἔχειν διὰ χρόνων τῶν ἰκνομένων.

time goes on. "Is it to be expected"¹ that performance is as true as theory? "It isn't conceivable"² that a pilot should need to be governed by his sailors. "It is not likely"³ that our theories about women will be realized even in your cities. It is neither reasonable nor "likely"⁴ that the same course of action which ruined Athens will restore her. Revolutions "are likely"⁵ to happen only when men are not themselves acquainted with the horrors of war. These instances are enough to show that this idiomatic use of ἔχει φύσιν is well established and that it is parallel to the weakened and indefinite use of κατὰ φύσιν. An interesting combination of the two phrases is found in Galen:⁶ τοῖς κατὰ φύσιν ἔχουσιν = "those who are in a right or normal frame of mind." All the instances can be explained with no reference to any system of nature and its laws. It would be difficult to find any instance of ἔχει φύσιν in the fifth or fourth century with such an implication. These idioms involve no reference to "laws of nature" or natural philosophy any more than Hippolytus thinks of the philosophers' discussions of ἀνάγκη when he complains in a similar idiom:

ἔχει δ' ἀνάγκην, ὥστε κηδεύσας καλοῖς
γαμβροῖσι χαίρων σώζεται πικρὸν λέχος.⁷

In *Cratylus* 400a^b Plato offers his own contribution to the history of φύσις by pretending that the phrase becomes φυσέχη. This is in turn metamorphosed into ψυχή, which is supposed to mean etymologically "the supporter," because the soul "supports" the "nature of all things," including the "nature of the body."

φύσιν and τὴν φύσιν as accusatives of specification are from the nature of the case almost entirely limited to a specific reference. Often their meaning is very slight, and they are treated under the note on periphrasis.

¹ *Rep.* 473a: φύσιν ἔχει πράξιν λέξεως ἡττον ἀληθείας ἐφάπτεσθαι Davies and Vaughan translate, "law of nature."

² *Rep.* 489b; cf. ἔχει λόγον in exactly the same sense, *Rep.* 491d; *Thaet.* 157d; *Phil.* 30c.

³ *Laws* 839d, following Ast against Jowett, who translates, "the common meals of women would be regarded as unnatural."

⁴ Demosthenes 2. 26: οὐτ' εὐλογον οὐτ' ἔχον ἐστὶ φύσιν τοῦτό γε . . . ; cf. *Rhet. Graec.*, ed. Spengel-Hammer, I, 4, l. 4, from an early fragment of a commentary on Ar. *Rhet.*: τοῦτο εὐλογον ἢ φύσιν ἔχον ἐστὶ τοῦ ἀποκρίνασθαι.

⁵ Polybius ii. 21. 3: φύσιν ἔχει γίνεσθαι.

⁶ *De Hipp.* ἀφ. Ed. Kühn XVII. Pt. ii. 414; cf. same phrase in Clem. *Strom.* ii. 22. 72 Migne perhaps from Speusippus.

⁷ Eur. *Hippol.* 634.

If this conception of the meaning of κατὰ φύσιν and like phrases be correct, if their use in Hippocrates and in early Greek literature generally has a reference to the nature of some particular thing and not to any general system of nature, while from this it has often weakened to an indefinite and idiomatic usage whose reference is very vague, it then follows that it is often misleading to translate by "naturally," "naturellement," "naturgemäss," and the like, and that is often important to determine the exact reference. For instance, in the Heraclitean *περὶ διαίτης* the author is discussing the function of fire, the primary cause of all existence, in the formation of the human body. He says: τὸ δὲ πῦρ ἐκ τοῦ συμμιγέντος κινευμένου τοῦ ὕγροῦ διακοσμεῖται τὸ σῶμα κατὰ φύσιν διὰ τοιήνδε ἀνάγκην.¹ Littré translates, "mis en mouvement la disposition naturelle des corps," while Fuchs renders, "in einen ordnungsmässigen Zustand." Now the explanation which follows consists of a detailed description of the formation and separation of the various organs and seems to show that κατὰ φύσιν refers directly to the πῦρ. Furthermore, at the close of the section the thought of the introductory sentence is repeated as follows: ἐνὶ δὲ λόγῳ πάντα διεκοσμήσατο κατὰ τρόπον αὐτὸ ἐωυτῷ τὰ ἐν τῷ σώματι τὸ πῦρ. Κατὰ φύσιν, then, quite plainly refers to the nature of the fire, according to which it sorts out the confused elements of the embryonic human frame and forms bones, cavities, etc. On the following page the writer speaks of πῦρ διέπον ἅπαντα κατὰ φύσιν. This is exactly the same conception of the work of πῦρ as is found on the previous page, except that here all nature is subject to its influence. The reference of κατὰ φύσιν to πῦρ is made plain by the description of φύσις which follows immediately.

Again, farther on the same author says: οὐ γὰρ (ψυχὴ) ἀλλοιοῦται οὔτε διὰ φύσιν οὔτε δι' ἀνάγκην. σῶμα δὲ οὐδέποτε τὸν οὐδενὸς οὔτε κατὰ φύσιν οὔθ' ὑπ' ἀνάγκης.² Littré translates these phrases, "ni naturellement ni artificiellement." These words seem much vaguer than the Greek. The words mean that the soul is unchanged neither through its own nature nor because of outside compulsion. Fuchs translates, "weder von Natur, noch durch einen gewaltsamen Eingriff." There is here not the slightest reference to any generalized or universal Nature.

¹ Bk. I. vi. 484.

² Bk. I. vi. 502.

CHAPTER IX

Περὶ φύσεως

In the treatment of *περὶ φύσεως* there are involved three distinct questions. These have not always been kept separate in the many recent discussions of this much-used phrase. (1) Was *περὶ φύσεως* a title which the pre-Socratics commonly prefixed to their books? (2) Was it a term used by them to denote the whole general range of their inquiries? (3) If it was used by them, precisely what did they mean by it?

The answer to the first of these questions is of little direct consequence to the purposes of this essay. The evidence for the general use of book titles in the fifth century is very scanty. Such as there is has been well collected by Lohan.¹ He arrives at the conclusion that at this time book titles were very fluid and variable. He finds no direct evidence that they were formally prefixed to books before the latter part of the fourth century, although he thinks it probable that the custom may have originated earlier. When the fifth-century philosophical treatises were quoted, even by fourth-century writers, he finds that there was employed any sort of designation that would single out the book.

There is in the *Hippocratica* some evidence which Lohan has neglected, but it seems to confirm his conclusions. Four of these tracts now bear titles containing the phrase under discussion, *περὶ φύσιος γυναικείης*, *περὶ φύσιος ἀνθρώπου*, *περὶ φύσιος παιδίου*,² *περὶ ὁστέων φύσιος*. There is of course no evidence that carries these titles back to the fifth century, but in the text of his book the author of *π γυναικείων* twice refers back to what he has written *ἐν τῇ φύσει τοῦ παιδίου*.³ This looks like the use of *περὶ φύσεως* as an actual book title, but it is apparently unique in the fifth century. All other instances of *περὶ φύσεως* before Aristotle can be explained as referring to the subject-matter and may not be book titles. A comparison of *Ἐμπεδοκλῆς ἢ ἄλλοι οἱ περὶ φύσεως γεγράφασιν*⁴ with *εἰσὶ τινες οἱ ἔλεξαν φύσιν ξυγγράφοντες*⁵ seems to show

¹ *De Librorum Titulis apud Classicos Scriptores Graecos*. Marburg, 1890.

² A subtitle of *περὶ γονῆς*. Fuchs translates, "Die Entstehung des Kindes," but this is contrary to the analogy of the other titles which contain *περὶ φύσεως*.

³ viii. 10. 152.

⁴ *π ἀρχαίης ἱητρικῆς* i. 620.

⁵ *π σαρκῶν* viii. 604.

that in the fifth century *περὶ φύσεως* as a title had not yet become the stereotyped expression for any pre-Socratic book on natural philosophy.

Aristotle often refers to his discussions *ἐν τοῖς περὶ φύσεως*.¹ This is the book now known as *τὰ φυσικά* or *φυσικὴ ἀκρόασις*. Even in Aristotle *ἐν τοῖς φυσικοῖς*² is used as often as *ἐν τοῖς περὶ φύσεως*, and *ἐν τῇ μεθόδῳ τῇ τῶν φυσικῶν* occurs.³ Besides, Bonitz⁴ has pointed out that the discussion referred to in *Met.* 989a24 as *ἐν τοῖς περὶ φύσεως* is not to be found in the *Physics*, but in the *De caelo*, so that even here *περὶ φύσεως* must be taken to refer to the subject-matter and is not used as a book title.

Christ⁵ and Burnet⁶ agree that no titles were prefixed to the pre-Socratic treatises, but Zeller⁷ thinks that *λόγος περὶ φύσεως* stood as title just before Fragment 1 of Heraclitus! And Woodbridge⁸ thinks that the constancy of the tradition makes the use of *περὶ φύσεως* as a title seem quite certain.

The whole discussion of book titles is introduced only to be thrown out of court. If it could be proved that the pre-Socratics actually prefixed *περὶ φύσεως* to their books, there would then be some presumption that the phrase represented more or less accurately their own idea of the contents of those books. But the absence of such proof shows nothing.

Did they, then, use *περὶ φύσεως* as a concise description of the range of their studies? On this point the evidence is very much better and more complete. Plato and Xenophon⁹ often use the phrase to describe the work of the pre-Socratics. It is so used in fragments of Philolaos¹⁰ and Archytas,¹¹ in the *Dialexeis*,¹² and in Herodotus.¹³ Besides the references in the *Hippocratica* just mentioned, the phrase is found several times,¹⁴ as well as the parallel *ἀμφὶ φύσεως*.¹⁵ In the face of these many and varied instances of a phrase used of a kind of work known to have been that of a certain well-defined class of men and of just the subject-matter that is known to have occupied those men's minds, and in the absence of any hint that the term was one of later coinage and of any motive for that later coinage, he would indeed be rash who should affirm that the

¹ *Met.* 983a33, 985a12, 986b30, 988a22, 1086a23.

² *Met.* 993a11, 1042b8, 1059a34, 1062b31, 1073a32; *Phys.* 251a9, 253b8, 267b21.

³ *Met.* 1076a9.

⁷ *Phil. d. Gr.* 5, I, 630, n. 1.

⁴ On *Met.* 989a24.

⁸ P. 366.

¹¹ 1.

⁵ 6th ed., I, 623, n. 2.

⁹ *Mem.* i. 1. 14.

¹² 8.

⁶ *Early Gk. Phil.*, p. 12, n. 2.

¹⁰ 6.

¹³ ii. 19.

¹⁴ π διατρης Bk. I. vi. 510; ἐπιδημῶν v. 136; π φύσιος γυναικείης vii. 312; π ἀέρων ii. 62.

¹⁵ π φύσιος ἀνθρώπου vi. 32; π φύσιος παιδίου vii. 498; ἀμφὶ τὰς φύσις 506; cf. also π ἀρχαίης λητρικῆς i. 600: ζητήσαντες πρὸς τὴν τοῦ ἀνθρώπου φύσιν.

pre-Socratics did not speak of their work as *περὶ φύσεως*. On this point the evidence seems convincing. Someone might speak of Spencer's "books on evolution," and it would be a correct inference that Spencer had written on that general topic. It would also, I think, be a correct inference that Spencer had employed that language to express the general purport of his work, and particularly would this inference be justified if his successors and followers continually used the words in the discussion of his teaching. It would be false to infer that "Evolution" or "On Evolution" had been the title of his books.

How could φύσις, in any of the general meanings commonly attributed to it, come into use at a time when physical study had already been differentiated from the facts of the moral life and from ultimate philosophy? After the work of Socrates and Plato it would be hard to find a time when *περὶ φύσεως* could have been adopted as a general rubric to include the whole discipline of philosophy and natural science. It was still so used, apparently, only by the Epicurean school, notably by Epicurus and Lucretius.

The later usage is unanimous. Aristotle consistently refers to the pre-Socratics as οἱ *περὶ φύσεως* or its equivalents. Perhaps Galen's concise statement best shows the later Greek use of the phrase: τὰ γὰρ τῶν παλαιῶν ἅπαντα περὶ φύσεως ἐπιγράφονται.¹ The phraseology shows that in Galen's time *περὶ φύσεως* was also the title accompanying the books. Simplicius' statement agrees with that of Galen, but adds that the pre-Socratics wrote, not only *περὶ τῶν ὑπὲρ φύσιν*, but also *περὶ τῶν φυσικῶν*.²

What did the pre-Socratics mean by *περὶ φύσεως*? Plato gives several hints of the explanation of the term. The clearest of these makes φύσις the synonym and equivalent of τὸ ὅλον,³ which, with ὁ κόσμος,⁴ was the common designation of universal nature viewed as a whole. He says that οἱ *περὶ φύσεώς τε καὶ τοῦ ὅλου διαλεγόμενοι καὶ γράφοντες*⁵ affirm that like attracts like. This is an evident reference to pre-Socratic arguments and quite plainly makes φύσις the equivalent of τὸ ὅλον. In

¹ π τῶν καθ' Ἰππ. στοιχείων K i: 487. Galen also shows that this title was extremely general in scope, including whatever these men might wish to write about, so that in attempting to discover the contents of one of these pre-Socratic books οὐδὲ χρὴ τοῦνομα ζητεῖν ἀλλὰ τὴν δύναμιν ἐξετάζειν τῶν λόγων.

² In Arist. *De caelo* 556; 25 ed. Heilberg.

³ τὸ ὅλον perhaps in this meaning first in the *Hippocratica*, e.g., *ἐβδομάδων* ix. 663.

⁴ Perhaps first in Heraclitus 30; Parmenides 2.

⁵ *Lysis* 214b.

the *Phaedo*¹ περὶ φύσεως ιστορίαν is explained still more explicitly as the knowledge of the causes of each thing, why each thing originates, and why it ends and why it is. Then follow some specimens of this kind of investigation. Does life arise when the hot and the cold putrefy? Do we think with the blood, or with the air, or with fire, or with the brain?² What are the different changes in the heaven and the earth? How is the human body nourished? Again, Hippias is speechifying περὶ φύσεως. He is then answering questions about astronomy and transcendental matters.³ Those whose arguments περὶ φύσεως are to be worth considering must study the varieties in species produced by the differing size of the original triangles.⁴ The Athenian fears that all who have taken hold of the investigations περὶ φύσεως may be holding a very silly opinion.⁵ He is trying to show that material elements are not metaphysically primary. In the *Philebus*⁶ the search περὶ φύσεως is the effort to find out how the world came into being and to what laws it is subject and what are its modes of action. The whole series of facts so investigated is distinguished from reality and called the "world of becoming." All the more important arts require much subtlety and lofty theorizing περὶ φύσεως,⁷ just as Pericles' oratory excelled from his having paid some attention to Anaxagoras' scientific treatment ἐπὶ φύσιν νοῦ καὶ διανοίας, and just as Hippocrates says that a scientific knowledge of the body is a necessary prerequisite to medical efficiency. So must one know the ψυχῆς φύσιν before he can become a telling speaker, and this ψυχῆς φύσιν cannot be understood without a knowledge τῆς τοῦ ὅλου φύσεως.⁸ An analysis of this knowledge follows. It is found to consist of the answers

¹ 96a. The phrase is found first in π ἀρχαίης ἡτρικῆς i. 622 or Eur. Fr. inc. 910. It is also in Aristotle, e.g., *De part. an.* 639a13. Heidel, n. 7, quotes an interesting line of Theophrastus, Fr. 9, in which ἡ πραγματεία περὶ τῆς πρώτης φιλοσοφίας is opposed to ἡ περὶ φύσεως ιστορία.

² Cf. π σάρκων viii. 604, where this theory is discredited.

³ *Pro.* 315c.

⁴ *Tim.* 57d.

⁵ *Laws* 891c.

⁶ 59a. περὶ φύσεως . . . τὰ περὶ τὸν κόσμον τόνδε, ὅπη τε γέγρονε καὶ ὅπη πάσχει τι καὶ ὅπη ποιεῖ.

⁷ *Phaedrus* 270a.

⁸ The idea is a favorite one with Plato. In *Laws* 720b ff. and 857d it is applied to legislation, and there, as here, it is illustrated by the rivalry in medicine between the empirical and scientific schools, a rivalry which forms the main theme of several of the Hippocratic tracts. It has been questioned whether τῆς τοῦ ὅλου φύσεως in the *Phaedrus* passage means the "universe," as understood by the commentators, or "the scientific nature of the whole," i.e., of whatever whole is the subject of discussion, in this case the body or the soul. In the pages leading up to this discussion τὸ ὅλον is at least twice used for "the whole that is under discussion." In 264c an argument

to three questions: (1) Is the soul simple or manifold? (2) What is the function of each? (3) What is the relation between any kind of discourse and any kind of soul? These three divisions, then, embrace a scientific analysis of the soul and its relations. The whole process is quite correctly described in English by calling it a search for the real or essential nature of the soul.

So Xenophon tells us that Socrates did not teach *περὶ τῆς τῶν πάντων φύσεως ἥπερ τῶν ἄλλων οἱ πλείστοι*¹ and gives instances of the kind of topics that were avoided by him: How did the world originate?² By what laws are the heavenly bodies governed?

One of the tracts in the *Hippocratica*, *περὶ ἀρχαίης ἱητρικῆς*, a tract which Littré³ thought the work of Hippocrates himself and which Fredich⁴ and Burnet⁵ agree in calling a fifth-century production, devotes a whole chapter (chap. 20) to a discussion of the relation between the empirical study of medicine and investigations *περὶ φύσεως*. I do not think that anywhere in this chapter *περὶ φύσεως* means "universal nature." It is the "nature of the human body" or of some other particular existence that is intended. Even as ardent an empiricist as the author of *π ἀρχαίης ἱητρικῆς* would hardly say that an empirical study of the reactions of the human body to various diets and medicines would lead to a knowledge of universal nature⁶ (*νομίζω δὲ περὶ φύσιος γινῶναι τι σαφές*

must μέσα τε ἔχειν καὶ ἄκρα, πρέποντ' ἀλλήλοισ καὶ τῷ ὅλῳ γεγραμμένα. In 269c ordinary teachers of rhetoric think it unnecessary τὸ ἐκαστα τοῦτων πιθανῶς λέγειν τε καὶ τὸ ὅλον συνίστασθαι. An interesting parallel is found in *Theat.* 173c: πᾶσαν πάντῃ φύσιν ἐρευνωμένη τῶν ὄντων ἐκάστου ὅλου. In *Laws* 857d, mentioned above, we find *περὶ φύσεως πάσης ἐπανιόντα τῆς τῶν σωμάτων*. In view of these passages and of such discussions as *Charm.* 156b; *Eth. Nic.* 1102a21, and those about to be cited from the physicians, and in view of the actual discussion which follows, in which nothing is said about "universal nature," it seems most probable that the phrase means, freely translated, "its whole nature, scientifically considered."

¹ *Mem.* i. 1. 11. This is a commonplace in notices of Socrates. *Phaedo* 96a; *Met.* 987b1; *De part. an.* 642a28; Demetrius of Byzantium in *Diog. Laert.* ii. 21. Sext. Emp. vii. 8-21 refers to Xen. *loc. cit.*, quotes Timon's *Silloi*, and has a long list of followers of Socrates who refused to pay attention to τὸ φυσικόν.

² Some MSS read ἔχει for ἔφν. This would remove all reference to origins.

³ i. 293.

⁴ *Hippokratistische Untersuchungen*, p. 33.

⁵ *Early Gk. Phil.*, p. 405.

⁶ Cf. *π σαρκῶν* viii. 604 for like phrases. Arist. *De sensu* 435a 19 is not a parallel. διὸ σχεδὸν τῶν περὶ φύσεως οἱ πλείστοι καὶ τῶν λατρῶν οἱ φιλοσοφωτέρας τὴν τέχην μετιόντες, οἱ μὲν τελευτῶσιν εἰς τὰ περὶ λατρικῆς, οἱ δ' ἐκ τῶν περὶ φύσεως ἀρχονται περὶ τῆς λατρικῆς. In Aristotle the contrast lies between physicians and students of natural science; in *π. ἀρχ. ἱητρικῆς*, between two schools of physicians. Heidel, *περὶ φύσεως*, p. 123, and Galen, in a similar passage, *π. χρεῖας μορίων* K iv. 360, interpret *περὶ φύσεως* as "universal nature."

οὐδαμότερον ἄλλοθεν εἶναι ἢ ἐξ ἰητρικῆς). He is evidently thinking of a knowledge of the human body and declares that such knowledge, as far as it exists and has value, can be obtained only through empirical methods. What does he mean by this inquiry of which he so strongly disapproves? Three times over he states that it involves a knowledge of what the body is and how it first came into being and out of what elements it is compounded. There is nowhere any hint that the phrase *περὶ φύσεως* is limited or chiefly refers to the last of the three topics mentioned.

In the *περὶ φύσεως ἀνθρώπου*, a tract of like date and defending the same empirical principles, the statements noticed in the preceding paragraph are repeated and the phrase is limited to human nature.¹

In a third tract, *περὶ διαίτης*, there occurs a statement of the opposite point of view, the one mentioned by Plato in *Phaedrus* 270. According to this author, he who discusses the theory of regimen must *πρῶτον παντὸς φύσιν ἀνθρώπου γινῶναι καὶ διαγινῶναι*, and this is explained to consist of two things: *γινῶναι μὲν ἀπὸ τίνων συνέστηκεν ἐξ ἀρχῆς, διαγινῶναι δὲ ὑπὸ τίνων μερῶν κεκράτηται*.² Again, there is the following statement, beginning a study of the anatomy of the head: *φύσις δὲ τοῦ σώματος, ἀρχὴ τοῦ ἐν ἰητρικῇ λόγου*.³

Aristotle says of the Pythagoreans: *διαλέγονται καὶ πραγματεύονται περὶ φύσεως πάντα· γεννῶσί τε γὰρ τὸν οὐρανόν, καὶ περὶ τὰ τοῦτου μέρη καὶ τὰ πάθη καὶ τὰ ἔργα*⁴ *διατηροῦσι τὸ συμβαῖνον*.⁵

All these quotations present a consistent testimony to the meaning of *περὶ φύσεως*. Discussions *περὶ φύσεως* were those which related to the character of things in general, the constitution of the world as a whole, to the description and explanation of the phenomena of life and of nature, the how and the why of things as they really are in the eye of the scientist. These general statements of the actual contents of the pre-Socratic discussions and the general character of the scattered fragments of their writings that remain show better than any amount of inference that it is impossible to limit the application of *περὶ φύσεως*. The great variety of topics discussed under this caption shows that the application of the phrase cannot have been limited to the "origin of things" or to the

¹ *ὅστις εἰσθεν ἀκούειν λεγόντων ἀμφὶ τῆς φύσιος τῆς ἀνθρωπίνης* vi. 32.

² Bk. I, chap. 2; see also chaps. 10 ff.

³ π. τόπων vi. 278.

⁴ The preceding six words are deleted by Christ because they are not commented on by Alexander. At any rate, they explain what must have been Aristotle's meaning.

⁵ *Met.* 989b33.

"primary substance." These interpretations and the arguments by which they have been supported will be examined later. Suffice it to say here that all the passages quoted seem to show that the interest of the early philosophers weakened as their analysis of reality receded into abstractions. The thing analyzed and its functions were the chief interest of the investigator. The search for the final origin or for the primary substance was only the means to that end.

John Stuart Mill lamented that Plato had written no treatise *περὶ φύσεως*. To this it has been answered that he did write the *Timaeus*. But it might as well be said that he could have prefixed that title to the *Republic*, for the true nature of the real world, as he thought of it, is the subject-matter of that book. Only when Plato and Aristotle had begun to find the contents of the real world in a series of facts distinct from "Nature"; when they began to distinguish between the phenomenal and the ideal worlds, *περὶ φύσεως* became the technical expression for the kind of philosophizing done by their predecessors who had made no such distinction.¹ Until that time *περὶ φύσεως* was often almost equivalent to "On Philosophy." According to an English usage not so very long obsolete, *περὶ φύσεως ἀνθρώπου* might in like manner be translated "on the philosophy of the human constitution," just as Campbell wrote a *Philosophy of Rhetoric*. So Aristotle says: "It is *φυσικῶς* to investigate the ultimate principles of health and disease" (*De sensu* 436a17).

All these quotations with their varied explanations of the term, lead us, then, to believe that among the pre-Socratics the usual meaning of *περὶ φύσεως* was "On Nature," i.e., "on the nature of things in general" or "on the nature of some particular thing." In the titles of the *Hippiocratica* above mentioned, if they be of early origin, or in phrases like *περὶ γυναικείης φύσιος καὶ νοσημάτων τάδε λέγω*² or *τοῦτό γέ μοι δοκεῖ ἀναγκαῖον εἶναι ἡτηρῶ περὶ φύσιος εἰδέναι . . . ὃ τί τέ ἐστιν ἄνθρωπος πρὸς τὰ ἐσθιόμενα*,³ the reference is certainly to the nature of some one thing. So is it, I think, in the quotation from the *Phaedrus*. In the *Lysis*, however, the context seems to show that universal Nature is meant.

A good illustration of how the transfer was made from the nature of some one particular object to Nature as a whole is to be found in the *π διαίτης*:⁴ *φύσιν δὲ πάντων θεοὶ διεκόσμησαν . . . ὅκῳ δὲ θεοὶ ἔθεσαν αἰεὶ ὁρθῶς ἔχει*. Here the phrase *φύσιν πάντων* is evidently distributive. The nature of each individual thing has been ordered by the gods, and everything so ordered is good. Socrates asks Hermogenes

¹ Cf. *Laws* 892c and context and its parallels, Diels I, 351, ll. 5, 40; *Met.* 990a7.

² π. φύσιος γυναικείης vii. 312. ³ π. ἀρχαίης ἡτηρικῆς i. 622. ⁴ Bk. I. vi. 486.

whether he does not believe that mind orders τὴν τῶν ἄλλων ἀπάντων φύσιν.¹ Here the ἄλλων shows clearly the distributive character of the reference. Very likely the author of the *Διαλέξεις* used the words in the same way: περὶ φύσιος τῶν ἀπάντων ὡς τε ἔχει καὶ ὡς ἐγένετο; ὁ περὶ φύσιος τῶν ἀπάντων εἰδώς, πῶς οὐ δυνασέεται περὶ πάντων ὀρθῶς καὶ πρᾶσσειν.² Perhaps Xenophon's reference to Socrates is the same. There is a poorly attested title attributed to Democritus which reads περὶ φύσεως κόσμου.³

In the foregoing quotations the emphasis lies on the genitive. The nature of *all things* is in the writers' minds. From this the way is easy to the *nature* of all things, with a slight and finally disappearing emphasis on the genitive, until it became a pure periphrasis. Perhaps the often-quoted fragment of Critias⁴ uses φύσιν πάντων in this way, although the lines are too fragmentary to allow certainty. It is at any rate easy to see how this phrase and others like it might have enabled the pre-Socratics to use φύσις for the totality of Nature as a collective whole. Starting from what seems to have been its commonest and most ordinary meaning in both philosophy and literature—the nature or character of any particular thing, often with special reference to those qualities which require attention and study to be known and understood—it came to be used in the same way with reference to things in general, and then, by a transfer of the emphasis, it was used, not for the qualities that inhere in things in general, but for the system of those things, i.e., the world. This generalizing of meaning was undoubtedly assisted by the indefinite use of such idioms as κατὰ φύσιν and ἔχει φύσιν, to which a separate section is devoted in this essay.

How early this change occurred there is now no means of discovering. In the section on the *Hippocratica* I have tried to show that the writers of those books rarely, if ever, used φύσις in the general sense of "Nature." Probably even in the fourth century the word would by a Greek of that time often be understood to refer to some particular nature in many

¹ *Crat.* 400a; cf. also *Pro.* 337d: τὴν φύσιν τῶν πραγμάτων. Philolaos *Fr.* 6, l. 2: ἃ μὲν ἐστὼ τῶν πραγμάτων αἰδῖος ἔσσα καὶ αὐτὰ μὲν ἂ φύσις θελαν ἐνδέχεται γινῶσιν.

² Ch. 8. Throughout this chapter the author often refers to πάντα and always in a distributive sense. The *locus classicus* for this idea is *Elh. End.* 1216b12: οὐθὲν γὰρ ἑτερόν ἐστι τῆς ἀστρολογίας οὐδὲ τῆς περὶ φύσεως ἐπιστήμης πλὴν θεωρησαι τὴν φύσιν τῶν πραγμάτων. . . .

³ Attested by Suidas, art. "Democritus" (Diels, II, 19, l. 9), as one of the two genuine works. It is not in Thrasyllus' list. In the Hippocratic letters it appears as περὶ κόσμου διαθέσιος ix. 380.

⁴ *Fr.* Eur. 593.

places in which to us Stoic and Epicurean influences give it the suggestion of universal Nature. Hardy credits the Pythagoreans with having first used the word in a general way, but relies on fragments that are almost certainly not genuine.¹ As has been noted, Zeller thinks that *περὶ φύσεως* not only was used by the pre-Socratics as early as Heraclitus, but was employed by him as a formal title preceding his book. Adamson² thinks that even in the time of Thales φύσις was losing its personified signification and meant (1) the total mass of actual fact, (2) the generating principle thereof. A statement of this kind labors under many misapprehensions. There is no evidence that Thales used the word in any philosophical sense at all. He may have done so, but it cannot be shown that he did. It is altogether unlikely that the pre-Socratic use of φύσις, whatever that may have been, was preceded by any personification.³ If it is meant that the separation into fact and its generating principle was consciously present to Thales, another unlikely assumption is introduced. Hardy credits Heraclitus with a like highly developed and

¹ *Op. cit.*, p. 30.

² *Development of Gk. Phil.*, p. 6.

³ This suggestion has been worked out in detail by Hardy, *op. cit.*, pp. 9 ff., but he depends entirely on proof drawn from the Orphic writings. The real personification of φύσις as a divinity seems to have been a much later development. The earliest instance is apparently a figure on the British Museum Apotheosis of Homer, a Hellenistic relief on which the figure of φύσις is joined with those of Ἀρετή, Πλοῦτος, and Σοφία. The relief has often been reproduced, perhaps best in Brunn-Bruckmann's *Denkmäler*, Tafel 50. The instances given by Stoll in Roscher's *Lexikon* are all late, and of some it is doubtful whether there is any real personification, but only such personification as is implied in associating with φύσις a verb implying action or purpose. Heidel, *op. cit.*, p. 106, has collected many such instances from the *Hippocratica*. They are of course very common in Aristotle (see Bonitz index). It is noticeable that nearly all the instances from the *Hippocratica* refer to some particular nature, as is almost certainly the case in *Gor. Pal.* 1 (see p. 19) and its parallels. The companions of φύσις in the bas-relief seem to show that there, too, Talent and not Nature is personified. Also to be separated from real personification are instances in which a poet speaks rhetorically of Nature in the second person. These are common, e.g., in Statius. Real personification is found in the tenth Orphic hymn, which consists of a collection of epithets addressed to the goddess φύσις. In this real personification φύσις is often associated with Aphrodite, as in the beginning of Lucretius' poem, in Philodemus' criticism of the Stoics (*π εὐσεβείας*, p. 79, Gomperz), in many magical papyri quoted by Preisendanz in *Philologus*, 1908, p. 474. Cf. an interesting inscription of the second century A.D. in Riese, *Anth. Lat.*, II, 2, p. 708

O Priape potens amice salve
seu cupis genitor vocari et auctor
orbis aut physis ipse Panque, salve.

Artemidorus, 2. 39, says that it is good to dream of φύσις and gives many details. Nonnus often personifies φύσις, e.g., *Dionysiaca* 2. 650; other instances are given in

sophisticated conception: "Physis ist die alle Gegensätze aufhebende, sie zur Weltharmonie vereinigende Vernunftordnung von unbedingter Gültigkeit sowohl für das Niedere wie für das Höhere, zumal für der Menschen Denken und Thun in jeder, auch in sittlicher Hinsicht."¹ Any such idea of Nature in the mind of Heraclitus is in the highest degree improbable.

Until the close of the fifth century there is no direct proof that φύσις was used for Nature in general. On the other hand, it is also an assumption when Christ asserts that such a use was unknown to the early pre-Socratics.² The absence of actual instances in the few scattered remains of these writers proves nothing at all. As soon as philosophers found out that only by a comprehensive inquiry into the common characteristics of all things could there be discovered any satisfactory explanation of the world as a whole, so early could they have inquired concerning περὶ φύσεως πάντων, so early could that phrase have been accepted as a general designation of the scope of their efforts. Such is known to have been the character of even the very earliest attempts at what we now call philosophy.³ It is therefore perfectly possible that Anaximander's book spoke of inquiries περὶ φύσεως and that he already used the phrase without any limiting genitive as a general heading for scientific and philosophical inquiry, as Jans Enenkel, *ca.* 1250 A.D., entitled his book *Weltbuch*. If περὶ φύσεως was derived through περὶ φύσεως πάντων or some equivalent of that phrase, there is no reason why the πάντων could not have been dropped quite early. The common use of the phrase by the close of the fifth century in all kinds of literature seems to require the assumption that it had become fixed and was at that time associated with a commonly understood and definite meaning. To accomplish this result would have required the lapse of some time, how much cannot be known.

Stoll's article. Many of Stoll's examples from the *Anthology* seem to be hardly more than the kind spoken of above as frequent in the *Hippocratica* and Aristotle, e.g., the famous epigram ix. 793

Πόρτιν τήνδε Μύρωνος ἰδὼν, τάχα τοῦτο βοήσεις·
 "Ἡ φύσις ἀπνοός ἐστιν, ἢ ἔμπνοος ἐπλετο τέχνη."

Diels, *Vorsokratiker*, I, 236, writes Φύσιν in Plut. *De fac. lun.* 926e, where it seems to mean only "the organized κόσμος." See also Axtell, *Deification of Abstract Ideas in Roman Literature*; Gruppe, *Gk. Myth.*, pp. 1060, 1082.

¹ *Op. cit.*, p. 40.

² The earliest datable example is perhaps Eur. *Troad.* 886. This play was presented in 415.

³ Gomperz (*Gk. Denk.*, I, 54) has well emphasized this quality of Heraclitus' thought.

To the view above expressed there are opposed two others: that *περὶ φύσεως* means (1) "on the origin of things," (2) "on the primary substance."

Professor Woodbridge, in an article in the *Philosophical Review*,¹ maintained that in the fragments down to Empedocles in every case where the term *περὶ φύσεως* is unambiguous it means "origin."² He proceeds to translate φύσις by "origin" wherever it occurs in the pre-Socratic fragments, even rendering Empedocles Fr. 110, "These will cause them to grow each in its own nature, whatever origin each may have," whatever that may mean. He based his argument chiefly on the passage already cited from the *Phaedo* and on Parmenides Fr. 10.³ In the *Phaedo* the philosophers seek to explain "why each thing originates and why it ends and why it is"—surely a rather inconclusive reference for one who maintains that books *περὶ φύσεως* were limited in their scope to one of the three topics mentioned. In the Parmenides fragment φύσιν is said to be paralleled by ἐξεγένετο. But with equal justice it might be maintained that φύσιν is here a mere periphrasis because αἰθερίαν φύσιν is paralleled by τὰ σώματα in the same line. ὁππόθεν ἐξεγένετο is only one of the subjects of inquiry. Parmenides promises also to explain "the deeds of the pure bright sun's rays." If any parallelism is to be found, both the results and the origin of the sun's rays are to be paralleled with

¹ X, 359 ff. Essentially the same interpretation is favored by Joel, *Der Ursprung der Naturphilosophie aus dem Geiste der Mystik* (Jena, 1906), pp. 71 f. He thinks that in early Greek thought φύσις meant "die Erzeugung, die lebendige Entstehung." Miss Clara Millerd, *On the Interpretation of Empedocles* (Chicago, 1908), pp. 18 ff., wishes to translate "On the World Story." This translation seems to favor Woodbridge's, but her explanation is somewhat more in harmony with the views of this paper: "*περὶ φύσεως* means 'concerning the formation of things,' with just the double suggestion contained in the English phrase, i.e., 'how the world was formed' and 'what is its present organization.'"

In his little book on *The Stoic Philosophy*, p. 36, Gilbert Murray has strangely adopted the same suggestion and translates φύσις by "evolution." He quotes Myres in *University of California Chronicle*, XVI, 4.

² P. 370.

ἡ εἶση δ' αἰθερίαν τε φύσιν τὰ τ' ἐν αἰθέρι πάντα
σήματα καὶ καθαρῶς εὐαγέος ἡέλλιοιο
λαμπάδος ἔργ' ἀλὶθλα καὶ ὁππόθεν ἐξεγένοντο,
ἔργα τε κύκλωπος πύση περὶφοῖτα σελήνης
καὶ φύσιν, εἰδήσεις δὲ καὶ οὐρανὸν ἄμφι ἔχοντα
ἔνθεν [μὲν γὰρ] ἔφυ τε καὶ ὥς μιν ἄγουσ(α) ἐπέδωκεν Ἀνάγκη
πεῖρατ' ἔχειν ἄστρων.

Diels translates "Wesen"; Fairbanks, Nestle, p. 129, and Lovejoy, p. 375, "nature"; Burnet, "substance."

φύσιν. At the close of the fragment the origin and laws of the heavenly bodies are classed together, and both are to be learned by the philosopher's readers. If this fragment is complete enough to prove anything, it seems to show that φύσιν is here a word of very broad meaning. When the φύσις of an object is so spoken of, the whole nature of that object seems to be meant, its origin, its description, its manner of working, its effects. It is wrong to single out any one of these. The sentence seems to be an introduction to a description of the actual make-up of the visible world. Zeller's paraphrase is admirable. He speaks of Parmenides' "Beschreibung des Weltgebäudes."¹

In the defense of his position Professor Woodbridge makes much of the eighth fragment of Empedocles. This is elsewhere discussed. While in that place the meaning of φύσις is quite certainly "origin," the usage seems exceptional and was so understood by the ancients.

A much more widely circulated interpretation is that which has, in recent years, been first set forth by Burnet. He thinks that περὶ φύσεως signified "concerning the primary substance" and that "the search for the primary substance really was the thing that interested the Ionian philosophers."² This view has been accepted by Benn³ and Adam,⁴ while Proclus,⁵ Campbell,⁶ Lovejoy,⁷ Nestle,⁸ and Heidel⁹ express their dissent and hold rather to a translation similar to that presented above. The objections offered to this interpretation by Woodbridge and Miss Millerd have been referred to above.

It is quite certain that Burnet does not try to do for his rendering what Woodbridge attempted for his. He does not try to show that in all the pre-Socratic fragments φύσις means "substance." He employs that word in about half of his translations.¹⁰ In all these cases the accuracy of this translation is doubtful. Most of the passages have been previously discussed. Burnet must mean, then, that φύσις in the phrase

¹ 5th ed., I, 572.

² *Early Gk. Phil.*, p. 12. It seems that this view is not absolutely original with Burnet, though he thinks such is the case. Cf. Foes, *Oeconomia Hippocratis*, s.v. φύσις: "Antiquis philosophis [evidently referring to the pre-Socratics] φύσις dicitur prima rerum materia, omnibus quae generationi sunt obnoxia subjecta, quam non generatam sed aeternam faciunt."

³ *Gk. Phil.*, p. 137.

⁶ *Ed. Republic*, II, 318.

⁴ *Ed. Protagoras*, p. 95.

⁷ *Phil. Review*, 1909, p. 369.

⁵ In *Tim.* prooemium, p. 10, l. 7, Diehl.

⁸ *Die Vorsokratiker*, p. 20.

⁹ *Op. cit.*, pp. 79 ff., 103, 129.

¹⁰ He translates "coming into being" in Empedocles 8; "Nature" in Heraclitus 123, and Empedocles 110; "according to its nature" in Heraclitus 1.

περὶ φύσεως means "substance" and was so adopted because in other pre-Socratic literature that was its chief and elementary meaning. For this interpretation he relies chiefly on Aristotle¹ and Plato. Elsewhere in this paper there is found a full discussion of *Laws* 892 and its connection with Plato's thought and the terminology of his predecessors. It seems impossible to quote the passage at all as a reference to pre-Socratic terminology. Plato is there using a terminology of his own.

If Burnet means that *one* of the things that interested the early philosophers was this search for the primary substance, the statement is indisputable. This is shown clearly enough by the first book of Aristotle's *Metaphysics*. If it is meant that one of the chief efforts of these early thinkers was to discover the origin of individual objects and of the world as a whole, that, too, is indisputable. All early thought has been much interested in such inquiries, and the preceding quotations from Plato and the *Hippocratica* show that early Greek science was no exception to the rule. But when it is said that the only or even the primary purpose of their inquiries was the discovery of this elementary substance or of the origin of the world, the statement seems to reverse the facts. Taking into account the few and isolated fragments of their writings that remain, the descriptions of their work that are found in their immediate successors who had access to complete copies of those writings, and the ordinary literary meanings of φύσις, it appears that they started out to investigate Nature as they found it, trying to discover its real and essential characteristics and trying to explain the varied phenomena which they had observed. One of the results of this attitude was the conviction that natural phenomena were best explained by the assumption of one or more elementary substances as their substratum.

Another of Burnet's sentences seems to me a more accurate presentation of the real development of that idea of φύσις which became crystal-

¹ *Phys.* 193a21: διόπερ οἱ μὲν πῦρ, οἱ δὲ γῆν, οἱ δ' ἀέρα φασίν, οἱ δὲ ὕδωρ, οἱ δ' ἔνια τούτων, οἱ δὲ πάντα ταῦτα τὴν φύσιν εἶναι τὴν τῶν ὄντων. But surely Aristotle is here using φύσιν according to his own terminology, and is not inserting a note on the lexicography of the pre-Socratics.

It is said that Aristotle's quotations and especially the first book of the *Metaphysics* show that the pre-Socratic treatises to which he had access were chiefly concerned with the search for the primary substance. But in *Met.* i Aristotle is concerned with ultimate philosophy and quotes chiefly the opinions of his predecessors on that topic. In the scientific books he quotes more freely from their miscellaneous pronouncements. But it remains true that the purely scientific opinions of the pre-Socratics seem to have been little valued by Aristotle, probably for the same reason that contemporary science does not spend much time dismissing the scientific ideas of a century ago. With philosophy it is otherwise.

lized in the heading *περὶ φύσεως*: "It seemed to them that, if they could only strip off all the modifications which Art and Chance had introduced, they would get at the ultimately real; and so the search for φύσις, first in the world at large and afterwards in human society, became the chief interest of the age." Surely this is not equivalent to the statement that φύσις means "elementary substance." It is quite evidently true that many of the pre-Socratics found the ultimate reality to consist of such a substance, or of a number of such substances. They all sought to explain the world as they found it by looking backward for what Aristotle called its material cause or ἀρχή. But to translate *περὶ φύσεως* by "on substance" is to confuse the results of the activities of these men with the aim set before themselves, is to put the part for the whole, is to invert their view of science.

Whether the pre-Socratics really used *περὶ φύσεως* as a title for their books or whether it became their way of designating the scope of their inquiries, the phrase must have been most general and descriptive of the contents of the books so headed. But no attempt to pin down the scope of their discussions has yet been successful. The most striking characteristic of the few remaining remnants of that early literature is the very various subject-matter on which the earliest of scientific thinkers tried themselves. No sphere of investigation, almost no method of study, was unknown to them. They were seeking to discover the character of the world in which they lived. They did not limit themselves to one way of approach. They tried all. Recent writers¹ have well pointed out that they by no means so absolutely neglected psychological and moral studies as has often been supposed. Isolated glimpses of the world were in this way attained by them. Very characteristic of their thought was the absence of controlling or systematized principles either of explanation or of research. It is very dangerous to assume that any one "technical" sense of φύσις is the key to these varied speculations or that these writers, some of them a century and a half from one another, always used the word in any one particular and technical sense.

¹ Joel, *op. cit.*, and Heidel, *op. cit.*, have well emphasized the comprehensiveness of the methods and studies of the physicians. On the comprehensiveness of the studies of all the pre-Socratics see especially Benn, *Greek Philosophers*, 2d ed., p. vii. and often.

CHAPTER X

Φύσις AND νόμος

The distinction between φύσις and νόμος was one much used in the Sophistic discussions of the fifth and fourth centuries. It has also been much discussed by modern scholars, many of whom have tried to find in these catchwords a key to the history of the Sophistic thought and the test by which must be determined the philosophic affiliations of the different Sophists. Some of these attempts will be referred to later in this section. First, what is the history of the antithesis as known from the extant literature?

Heraclitus used φύσις for the real nature of a thing or a process as opposed to the erroneous notions of common folks.¹ In Herodotus' description of the winged serpents of Arabia there is a curious phrase which seems to mean that if these serpents increased as fast as their real nature might allow (ὥς ἡ φύσις αὐτοῖσι ὑπάρχει)² men could not endure their rapidly growing numbers. This peril is averted, he tells us, by curious habits of reproduction. Each female stings its male with a deadly poison, and each offspring kills its mother, and so the rate of increase is somewhat checked.

Corresponding to this use of φύσις for the real nature of an object which may be misinterpreted by men or overlaid by custom there is found the use of νόμος for a popular interpretation and for the custom which affects the nature. The former is found at least as early as Empedocles, who declares his intention to use words in their popular and conventional meanings (νόμῳ),³ although in the particular word of which he is then writing he believes the popular meaning in question unfortunate. Already in Hesiod νόμος is found paralleled with ἡθεα and meaning "custom."⁴ Xenophanes uses the verb νομίζεται with exactly this connotation. He says that it is only a popular but random and unconsidered notion to value athletics more than philosophy.⁵

Now there is no *a priori* reason why some early philosopher should not have combined these two opposites and used the antithesis φύσις

¹ Frs. I, 112, 123.

² iii. 109.

³ Fr. 9.

⁴ Theog. 66: μέλπονται πάντων τε νόμους καὶ ἡθεα κεδνά. Goettling translates πάντων νόμους *doctrina physiologiae*, but this is quite out of harmony with the context.

⁵ Fr. 2. 1. 13: εἰκὴ μάλ᾽ αὖ τοῦτο νομίζεται.

vs. νόμος. But there is no evidence that they did. The earliest instance in the philosophical fragments of the fifth century is in a supposed fragment of Philolaos quoted by Iamblichus. It occurs in a discussion of musical quantities. Even if the quotation be really from Philolaos, there is nothing in the context to show how he used it. Iamblichus merely quotes the words φύσει καὶ οὐ νόμῳ¹ and applies them to his own subject-matter. It is probable that at first "natural philosophy distinguished between νόμος and φύσις, and this distinction was transferred to ethical questions at a time when the decline of political morality had produced a general belief that only might is right."² That would be a natural order of development. But in the existing literature the distinction is applied to moral questions as early as to physical.

The writers of the *Hippocratica* often oppose φύσις to νόμος. It is used to point the difference between natural growth and artificial deformity,³ between the following out of one's natural bent and conforming to custom or civil law,⁴ between the products of man's ingenuity and those of divine ordinances,⁵ between the real nature of an object and the popular idea of that object or its name.⁶ In the last connection τύχη is paralleled with νόμῳ and τῷ ἔόντι with φύσει.⁷

Among the literary writers of the fifth century the antithesis is found several times. Herodotus says that the Greeks seemed to him to have small knowledge τῆς Αἰγυπτίων φύσιος καὶ τῶν νόμων.⁸ In this place the antithesis is weak. φύσιος and νόμων strengthen one another, but mean much the same. In Thucydides, Diodotus says that they are foolish who think that human nature, when it has set its heart on some project or other, will be turned aside from its purpose by the might of laws or anything else.⁹ In the account of the atrocities at Corcyra we are told that human nature overrides laws.¹⁰ Hermocrates tells the assembled Siceliots that by means of the word "alliance," a mere convention, the people of Athens are settling the affairs of a born foe in such a way that the profit shall be their own.¹¹ Euripides makes Ion say that his environ-

¹ Fr. 9.⁴ *Ibid.*, 64, 88.² Jones, *Gk. Mor.*, p. 55.⁵ π διατρης, Bk. I. vi. 486.³ π ἀέρων ii. 58.⁶ π φύσιος ἀνθρώπου, vi. 36, 40; π διατρης, Bk. I. vi. 476.⁷ π λεπῆς νούσου, vi. 392.⁸ ii. 45.⁹ iii. 45. 7.¹⁰ iii. 84. 2. The authenticity of all of chapter 84 has been doubted.¹¹ iv. 60. 1: ὀνόματι ἐννόμῳ ξυμμαχίας τὸ φύσει πολέμον εὐπρεπῶς ἐς τὸ ξυμφέρων καθίστανται. Classen interprets τὸ φύσει πολέμον as the ambitious designs of the Athenians, but Graves rightly notes that this does not do justice to καθίστανται.

ment and his character have combined to make him just.¹ A fragment may be translated, "It is the will of Nature, who cares not for human laws," or "It was the purpose of his true character, which cared not what men might think."² The latter is more in accord with the spirit of Euripides and with the lines found in the *Ion*. The chorus of Bacchic maidens declare that all that partakes of the heavenly, whether in the long course of time it has become customary or has been always deep-rooted in Nature, should be held valid.³ Earliest of all is probably Pindar's use of φύη, with him the equivalent of φύσις, as opposed to μαθόντες⁴ and διδασκταῖς.⁵

This completes the list of the fifth-century oppositions of φύσις and νόμος. Besides these there are the many varieties of language in which the place of νόμος is taken by such words as τέχνη, ἄσκησις, διδαχή. The literature of the time, in all its branches, was filled with this antithesis, which carried men's minds captive.

All this variety of expression can be reduced to four contrasts, that between character and training, that between reality and the conventional but generally erroneous interpretation of that reality, that between the normal and the erratic, that between the self-directed and that which obeys impulses from without. In Plato we learn much more about the many ways in which the Sophists turned this generally used antithesis. In the interminable disputes on the origin of language it was used to point the difference between the supposition that a word represented the real nature of a thing and the theory that any word can at will be attached to any object.⁶ Is knowledge objective (φύσει) or subjective (νόμῳ)?⁷ Is virtue teachable and taught or is it innate?⁸ Is religion inherent in the nature of the world or is it merely an invention of men?⁹

¹ *Ion* 643.

² Fr. inc. 920. The former translation is that of Gomperz, *Gk. Denk.*, I, 324.

³ *Bacchae* 896.

⁵ *O.* 9. 100.

⁴ *O.* 2. 94.

⁶ *Crat.*

⁷ νόμῳ vs. ἐτεῇ in Democritus Fr. 9. See Gomperz, I, 320 ff.; *Theat.* 157b; *Phaedo* 103b; *Phil.* 52a; *Rep.* 392c; *Laws* 822b. Very common in Aristotle and Theophrastus. This use of the antithesis is said to have originated with Democritus, but the idea rests upon Fr. 168, discussed on p. 94 f.

There seems no basis in *Rep.* 583 ff. and *Phil.* 43 ff. for inferring that Democritus used φύσις vs. νόμος to contrast sensual and true happiness, although the identification is accepted by Hirzel, Natorp, and Windelband. See Windelband, *Ges. d. antik. Phil.*, 3d ed., p. 133.

⁸ *Euthy.* 304c; *Meno* 70a; *Phaedrus* 269d.

⁹ *Laws* 889c; *Xen. Mem.* iv. 4, 19 ff.; Antisthenes in *RP* 285.

Is civilization the working out of what is already latent in human nature or is it a superficial excrescence without which men's conditions would be bettered?¹ Or is it superficial but yet necessary in order to keep down the baser passions of mankind?² The bolder of the Sophists molded the accepted doctrine of the Athenian state, "la force prime le droit," into the theory that justice is a mere convention, νόμος, and so each one may work out his own φύσις, as it leads him. The Sophists' own φύσεις, of course, fitted them to govern others, and so the practical rule of life became "put money in thy purse."³

It has been asserted that this last doctrine was not commonly held by Plato's contemporaries and that no Sophist can be proven to have defended it.⁴ If this means that none of its defenders can be named, the statement may be true enough. Little is known about the tenets of the individual Sophists except that they themselves seem to have tried their best to obscure whatever definite tenets they may have held. But the statements above quoted imply that this teaching was rare or unknown in the time of Socrates and Plato. The evidence for its commonness seems entirely sufficient. Benn bases his argument on the claim that outside of Plato such sentiments are found only in the Melian dialogue of Thucydides, "which cannot be taken as an index of public opinion at any time." But the Melian dialogue is in the true spirit of the Athenian aristocracy as represented throughout Thucydides. See especially the speech of the Athenian ambassadors at Sparta.⁵ It is quite in the manner of Thucydides to state frankly the real reason of the ambassadors, though they may well have concealed those reasons under other phrases. Even Pericles voices almost the same sentiment.⁶ Benn entirely ignores Democritus Fr. 267: φύσει τὸ ἄρχειν οἰκῆμον τῷ κρείσσονι, and speaks of Eur. *Phoen.* 499-525 as if it were a straw puppet erected to be overthrown by the "noble" lines 535-44. Both speeches were by Euripides probably meant to be merely effective rhetoric, but they would have lost much of their point if they had not been based on a τόπος well known in his time. Benn says further that the doctrine that might is right is not mentioned by Aristophanes, Xenophon, Lysias,

¹ Anon. Iamb. Fr. 6; see Grote, *Plato*, II, pp. 340 ff.; Dümmler, *Ak.*, p. 237.

² As often implied in Thucydides, e.g., iii. 84.

³ *Rep.* 347d, 358e, 367c, 392c, Thrasymachus; *Gor.* 482 ff., 489 ff., Callicles; *Laws* 714c; 731d, everyone a friend to himself; 890a; *Theat.* 172b.

⁴ Benn, *Archiv*, IX, 42, n. 11; Gomperz, *Ap. d. Heilkunst*², p. 103; not so Jones, *Gk. Mor.*, p. 53, who calls the doctrine "a widespread belief" and gives many references.

⁵ i. 76.

⁶ ii. 63. 2.

or Isocrates. But from his own admission it must have been known during this time, for he admits that it was taught and practiced by pupils of Gorgias. Xenophon could have presented the idea in no finer way than in his character of Menon.¹ Aristophanes as early as the *Clouds* attacked what must have been a common form of the teaching of the Platonic Callicles when he presented the ἄδικος λόγος, maintaining one's right to triumph over one's opponents by fair means or foul. See other references in Nestle's *Euripides*, pp. 203 ff., 486 ff.; *Vorsokratiker*, pp. 94 ff., on Critias. Nestle² derives this use of the antithesis φύσις vs. νόμος from the old Homeric aristocracy. This class would naturally be the defenders of a doctrine such as Callicles', while the common people would champion law and justice. Grote says that in the *Gorgias* the quibbler is not Callicles, but Socrates, and tries to show that in *Laws* 889 Plato has himself become the defender of Callicles' teaching!³ Diogenes Laertius⁴ says that Epicurus adopted Callicles' sentiment.

Common as these antitheses are in the literature of the fifth and fourth centuries, the emphasis laid by the Greeks upon this distinction has been much misstated and overemphasized in recent times. It has been seen that there is no actual evidence that the antithesis was at all used by the early philosophers. Heraclitus used νόμος for the underlying principle of order in Nature. It is extremely unlikely that he would also use it, except perhaps in a literary way, for the mere convention which is probably erroneous and may be discarded at will. For him νόμος would impliedly be included in φύσις or φύσις in νόμος, as it later was by Plato. Empedocles uses νόμος for convention and might have opposed it to φύσις, but there is no evidence that he actually did so. In Euripides' dramas φύσις and νόμος are both to be respected.⁵ This is an illustration of "polare Ausdrucksweise" which begins in Herodotus and is very common ever after.⁶ No emphasis is placed upon the difference in meaning between the two words, nor is their meaning identified. Together they are used to include with one broad sweep everything, be it φύσει or νόμῳ, of whatever class may at the time be under consideration.

¹ See Sorof in *Hermes*, XXXIV, 568. He tries to prove that Xenophon was a professed champion of νόμος. This is very forced, indeed, and Sorof's proofs are extremely inadequate.

² *Vorsokratiker*, p. 8.

³ Aristotle³, II, 106; *Hist. of Greece*, VIII, 385.

⁴ x. 150.

⁵ *Bacchae* 896; *Phoen.* 538: τὸ γὰρ ἔσον νόμιμον ἀνθρώποις ἔφην; *Ion* 643.

⁶ It is not mentioned by Kemmer in his collection of "polare Ausdrucksweise."

But there are not wanting instances before Plato in which φύσις and νόμος are identified. The Anonymous Sophist whom Iamblichus quotes speaks of the law and justice as firmly bound together φύσει.¹ The writer of π τέχνης speaks of names as φύσιος νομοθετήματα.² There is a crude anticipation of the doctrine that art is an imitation of Nature in π διαίτης.³ The mind of the gods teaches men to imitate the divine, says the writer, and he illustrates his text with a number of fanciful parallels between φύσις and τέχνη. In each of his illustrations the human art is an imitation of the superhuman nature. There is a fragment of Archytas, probably not genuine but an imitation, which says that a law ought to follow nature by imitating nature's justice.⁴ It is a far cry from ideas like these to Plato's demonstrations that natural laws are the working out of a divine intelligence, or to his νόμοι φύσεως, or to Cleanthes' Ζεῦ, φύσεως ἀρχηγέ, νόμον μέτα πάντα κυβερνῶν. But it does not seem that Greek philosophy ever deviated far from the conviction that all laws were founded in nature and were of superhuman origin. φύσις is used for the more immediate products of nature and νόμος for those that are more mediate.⁵

The antithesis was little more than a rhetorical device which for many reasons became popular in the age of the Sophists. The keen Greek mind always delighted in oppositions and contrasts of any kind. This contrast, in particular, was easily applicable to many subjects and early won currency as a literary form of expression. The Sophists found in it a tool well suited to the needs of eristic disputation. Its popularity increased with time. In the fourth century it came to be commonly used to mark many a contrast which had long been noticed but to which this form of expression had not, as far as our evidence goes, been before applied. Take, for example, the common saying that things are good as they are well used. It is often found in the fifth century and in Plato. Aristotle several times discusses it under the caption φύσις vs. νόμος.⁶

The origin and development of the application of the antithesis φύσις vs. νόμος to political, social, and moral questions has of late been much discussed. It has been said that it rose among the natural philosophers, was then used in its psychological connections by Protagoras and in its social and moral connotation by Archelaos or Hippias. These positions

¹ Diels, II, 332, l. 13.

² vi. 4.

³ Bk. I. vi. 486 ff.

⁴ Stob. Flor. iv. 43, 133 ed. Meineke: δεῖ δὲ τὸν νόμον ἀκόλουθον ἤμεν τῇ φύσει . . . ἀκόλουθος μὲν ὦν κα εἴη τῇ φύσει, μιμνέμενος τὸ τῆς φύσιος δίκαιον.

⁵ Heidel, π φύσεως, p. 94.

⁶ See p. 19.

are now to be considered. There are reasons for discrediting them, especially in their more definite and extreme statements.

Stallbaum on *Laws* 889e quotes Diogenes Laertius¹ to show that Archelaos first applied this distinction to morals. But Diogenes does not say that Archelaos was the first to make this distinction. He says only that he made it. Moreover, he adds that Archelaos maintained the distinction between the moist and the dry, a distinction which Archelaos was quite certainly not the first to maintain. Gomperz² supports the statement of Diogenes with an additional reference to Hippolytus³ which affirms that Archelaos taught a theory of the origin of civilization in which was treated the origin of law. As before, this statement is joined with another, in this case stating that Archelaos taught the presence of *νοῦς* in all living things, whereas exactly the same statement is made of Archelaos' teacher, Anaxagoras.⁴ So, granted that these authorities were well informed—a rather gratuitous assumption—it seems impossible to extract from their words the information sought.

Benn⁵ and Zeller⁶ assert that, to our knowledge, Hippias was the first who applied this antithesis to moral questions. Dümmler asks who introduced this distinction into *Sociologie* and answers positively: "Platon selbst gibt uns hierüber die unzweideutige Auskunft, dass es der Eleer Hippias war."⁷ Dümmler's forcible statement is agreed to by Leja⁸ and Cron,⁹ and the idea is commonly expressed in more general books.¹⁰ The sentence relied on for this remarkable affirmation is *Pro.* 337c. In the course of that dialogue the argument has come to a standstill because of the personal bitterness that has been developed. Then Prodicus and Hippias urge the disputants to become reconciled. Hippias says: ἡγοῦμαι ἐγὼ ὑμᾶς συγγενεῖς τε καὶ οἰκείους καὶ πολίτας πάντας εἶναι φύσει, οὐ νόμῳ· τὸ γὰρ ὅμοιον τῷ ὁμοίῳ φύσει συγγενές ἐστιν, ὁ δὲ νόμος, τύραννος ὢν τῶν ἀνθρώπων, πολλὰ παρὰ τὴν φύσιν βιάζεται. ἡμᾶς

¹ ii. 16: 'Ἀρχελάος εἶλεγε τὸ δίκαιον εἶναι καὶ τὸ αἰσχρὸν οὐ φύσει ἀλλὰ νόμῳ. Jones, *Gk. Mor.*, p. 52, thinks the distinction introduced "apparently" by Archelaos.

² *Gr. Denk.*, 2d ed., I, 462.

³ *Philosophumenson*, Diels, *Dox.*, p. 564, l. 7: καὶ διεκρίθησαν ἄνθρωποι ἀπὸ τῶν ἄλλων καὶ ἡγεμόνας καὶ νόμους καὶ τέχνας καὶ πόλεις καὶ τὰ ἄλλα συνέστησαν.

⁴ *Hipp. Phil.*, Diels, *Dox.*, p. 561, l. 25.

⁵ *The Greek Philosophers* (1882), I, 81; *Philosophy of Greece* (1898), p. 139.

⁶ *Phil. d. Gr.*, 5th ed., I, 1127.

⁸ *Der Sophist Hippias*, p. 17.

⁷ *Akademika*, p. 251.

⁹ *On Gor.* 482e.

¹⁰ E.g., Koestlin, *Ges. d. Ethik*, I, Part 1, p. 231; Watson, *Hedonistic Theories*, p. 17.

οὖν αἰσχρὸν τὴν μὲν φύσιν τῶν πραγμάτων εἶδέναι, σοφωτάτους δὲ ὄντας τῶν Ἑλλήνων This apparently simple remark has elicited the most various interpretations. Schanz¹ says: Hippias läugnet nach diesen Worten jede besondere Staatsgemeinschaft um seinen Neigungen allein fröhnen zu können. Hippias predigt die schrankenlose Freiheit des Subjekts. Der Staat ist ihm nur eine Arbeit des Zwangs." Benn² calls the statement a "pregnant principle, from which the fateful triad Liberty, Equality, and Fraternity was afterwards destined to be developed." Dümmler³ makes it the precursor of the Cynic-Stoic τῇ φύσει ὁμολογουμένως ζῆν, and Gomperz⁴ sees in it "das Ideal des Weltbürgertums." The truth seems to be that it is a mere bon mot in which the Platonic Hippias tries to soothe the angry debaters into complaisance sufficient for the continuance of the talk, and in the effort plays in succession with one Sophistic commonplace after another. Plato inserts it to mark a division between two parts of the argument. It has no philosophical bearing whatever. We need not even suppose that there is much connection of thought between the different clauses of Hippias' sentences. A showy parade of confused learning is everywhere in Plato one of Hippias' standing characteristics.

The foregoing interpretation of the passage in the *Protagoras* seems to be confirmed by the new fragment from Antiphon the Sophist, published after this chapter had been written.⁵ In that fragment the words which Plato puts into the mouth of Hippias are closely paralleled, as follows: τὰ πολλὰ τῶν κατὰ νόμον δικαίων πολεμῶς τῇ φύσει κείται, and again: φύσει πάντα πάντες ὁμοίως πεφύκαμεν καὶ βάρβαροι καὶ Ἕλληνες εἶναι. This new discovery is of great interest in many ways. It is the longest extant discussion of φύσις by any Sophist. The word occurs no less than fourteen times. The spirit of the discussion is exactly that which Plato leads us to expect, and is in striking contrast to the popular present-day defense of the Sophists. It makes unnecessary a large part of the argument on p. 71 by actually containing a definite Sophistic defense of crime and lawlessness: τὰ οὖν νόμιμα παραβαίνων ἢ ἂν λαθῇ τοὺς ὁμολογήσαντας καὶ αἰσχύνῃς καὶ ζημίας ἀπήλλακται. Evidently Antiphon's teaching was radically different from the reconstructions of certain modern scholars. Moreover, when we observe that this fragment, in the midst of its frank defense of undetected lawlessness, uses phrases closely parallel to the highly lauded speech of

¹ Beiträge zur vorsokratischen Phil. aus Plato, I, 102.

² *Philosophy of Greece*, p. 139.

⁴ *Gr. Denk.*, I, 326.

³ *Ak.*, 257.

⁵ *Ox. Pap.*, Vol. XI, No. 1364.

Hippias, we may well hesitate at the extravagant claims sometimes made for the lofty morality of Hippias.

Xen. *Mem.* iv. 4. 14 ff. is also mentioned, but no hint is there found that Hippias was the originator of this distinction. There is not even any mention of the antithesis. As an example of the reasoning allowed by Dümmler in his argument, the following may suffice: "Protagoras did not apply φύσις vs. νόμος to ethical questions¹ because in the myth in Plato's *Protagoras* the reference of all human justice to Zeus-sent δίκη and αἰδώς makes δίκαιον equivalent to φύσει ὄν!"

The fact seems to be that there is absolutely no evidence showing to whom it first occurred to oppose conventional and natural morals. Even a moderate statement such as that quoted from Zeller is hardly defensible. The chronological evidence scarcely enables us to affirm positively that a statement from Hippias must be earlier than one from Archelaos. Zeller's argument against the reference to Archelaos² certainly proves that Archelaos' moral philosophy could not have been very thoroughgoing, but hardly shows that he could not have made use of so very obvious a contrast as that between the natural and the conventional.

Another fallacious conclusion of exactly the same sort is Gomperz' statement that Prodicus "introduced into moral philosophy the conception of objects indifferent in themselves on which a value has been impressed only because of the use to which they are put when the dictates of reason are obeyed."³ Gomperz refers to the pseudo-Platonic *Eryxias* 397d. Apart from the fact that the *Eryxias* is comparatively late⁴ and the further consideration that it is at least questionable whether its author intends his characters to be historic, the dialogue does not say that Prodicus introduced this τῶπος. It merely puts the distinction into his mouth, and that in a quite incidental manner. Gomperz' reference to *Euthyd.* 279 ff. proves nothing.

Not only is there no evidence to show who was the first to use this contrast which became so common on the lips of the Sophists, but there seems none to show that on the basis of the distinction between φύσις and νόμος the Sophists were divided into two schools, Naturalists or Physiocrats, of whom the chief were Hippias, Prodicus, Herodotus, and

¹ Dümmler, *op. cit.*, p. 256. The "proof" is on p. 251.

² *Phil. d. Gr.*⁵, I, 1037, n. 5.

³ *Gk. Denk.*², I, 464.

⁴ "A little after 300 B.C." (Heidel, *Pseudo-Platonica*, p. 61).

the Humanists, represented chiefly by Protagoras, Gorgias, Thucydides,¹ Socrates, and his followers. The theory of these two schools seems to have been first set forth by Benn.² The same theory was also broached by Dümmler,³ apparently as the result of independent investigation, and has been accepted by many, e.g., Steinthal,⁴ Gomperz,⁵ Sorof.⁶

The argument begins with an examination of Hippias' teaching. He is said to have preached a return to Nature in the spirit of Rousseau. Dümmler's and Benn's interpretation of *Pro.* 337c has been spoken of above. Xen. *Mem.* iv. 4 is also quoted to show that Hippias based morals on the natural and the absolute. Here it is to be noted that there is no mention whatever of φύσις, and that it is not Hippias, but Socrates, who brings into the discussion the ἄγραφοι νόμοι. φύσει ἔχουσιν οἱ ἄνθρωποι τὰ φιλικὰ⁷ and πολὺ διαφέρει τὸ κατὰ φύσιν τε καὶ ὀρθῶς⁸ show that the Xenophontic Socrates could speak well of φύσις when occasion arose, and also reveals the variety of ways in which φύσις could be used in moral arguments. In iv. 4 Socrates defends νόμος, then in iv. 4. 19 turns his νόμος into ἄγραφοι νόμοι, which are of divine origin or φύσει.⁹ It is pure chicanery to turn Hippias' words into a noble defense of natural law. Hippias is so far from basing morality upon any natural right that he refuses all validity to any moral law except one which is absolutely universal. On this score he objects even to the forbidding of incest.¹⁰ The whole discussion is far removed from the lofty moral plane fancied by the recent interpreters. It begins by Hippias' boast that he could

¹ So Benn, *Phil. of Gr.*, p. 133. There really seems more of the "naturalistic" in his psychology and morals. As far as he can be said to advocate morals of any kind, his creed is unreservedly the ethics of success. See Shorey, "Implicit Ethics and Psychology of Thucydides," *Trans. Am. Phil. Assn.*, XXIV, 66.

² "Nature and Law," *Westminster Review*, April, 1880, p. 385; "The Greek Humanists," *Gk. Phil.*, 1882; "The Idea of Nature in Plato," *Archiv. f. Ges. d. Phil.*, IX, 24; "Humanists and Naturalists," *Philosophy of Greece*, 1898. In the second edition of *Greek Philosophers*, 1914, Benn replies to his critics and restates his positions, but I cannot see that he produces any new evidence. Proof from the Greek sources is still the great lack of this whole theory.

³ "Hippias der Eleer," *Akademika*.

⁴ *Ges. d. Sprachwissenschaft bei d. Gr. u. Röm.*, I, 75 and often.

⁵ *Gk. Phil.*, I, Book III, chaps. v-viii.

⁶ *Hermes*, XXXIV, 568, places Xenophon with the Humanists. Benn, *Archiv. op. cit.* p. 40, n. 8, puts him with the Naturalists!

⁷ Xen. *Mem.* ii. 6. 21.

⁹ Cf. ἤρκεσε *ibid.* i. 4. 13 with φύσει i. 4. 14.

⁸ *Ibid.* iii. 11. 11.

¹⁰ *Ibid.* iv. 4. 20.

say something new about everything—the most modern note in the whole argument. As far as the eristic shows anything, it shows that Socrates is trying to make Hippias understand the meaning of “law.” Hippias’ reference to the gods merely shows that “he was too inconsistent to make the obvious application of his theory concerning the laws to religion.”¹ Moreover, it must always be remembered that we have not to do with Hippias, but with the Xenophontic Hippias. There is no evidence that Xenophon did not stage his characters in any part desired.

Dümmmler refers² to the influence of Hippias Eur. Fr. 912 and many other Euripidean lines³ and Herodotus iii. 38⁴ and *Διαλέξεις*, chap. 2. All these references are of course clearly hypothetical. Benn refers to Eur. *Phoen.* 536–48 as a splendid reflex of the teaching of the naturalistic school and asserts that here “we have a glimpse of how the appeal to Nature was worked, for what noble purposes the Sophistic lessons in arithmetic and astronomy were used.”⁵ Rather is it true that here, and in the corresponding speech of Jocasta, Euripides saw a fine opportunity for rhetorical display—quite, indeed, in the true spirit of the Sophists. Wild lawlessness is matched against the sober respect for law. τὸ νόμιμον is, even in Jocasta’s speeches, emphasized much more than nature,⁶ while the poetical contrast of human injustice with the regularity of nature is found in Sophocles,⁷ in philosophy goes back at least to Heraclitus⁸ and probably to Anaximander,⁹ and is used by the Platonic Socrates.¹⁰ Hence one wonders why such verses show that in the time of the *Phoenissae* “morality was seeking a new basis in the order of Nature.”¹¹

Again, Hippias’ defense of truth,¹² a piece of pure rhetoric, is cited to show his devotion to the Nature-philosophy, because “Truth is just

¹ Zeller, *Phil. d. Gr.*⁵, I, 1135.

² *Ak.*, p. 252, n. 1, p. 257, n. 1.

³ A propos of Euripides it is interesting to note that Nestle in *Vorsokratiker*, p. 77, says that Euripides’ tragedies betray the influence of his friend Protagoras and, p. 79, that *Supp.* 196 ff. is an evident attack upon Prodicus’ pessimism. Such statements are easily made, but at least they show the hopeless disagreement between the students of the “physiocratic” movement.

⁴ This is defended by Nestle in *Philologus*, LXVII, 568, while Diels in *Vorsokratiker*, II, 288, calls it a “vage Hypothese.”

⁵ *Phil. of Gr.*, p. 143.

⁶ l. 538.

⁷ *Aj.* 668–78.

⁸ Fr. 94: ἤλιος γὰρ οὐχ ὑπερβήσεται μέτρα, εἰ δὲ μή, Ἐρινύες μιν Δίκης ἐπικούροι ἐξευρήσουσιν.

⁹ Diels, *Vorsokratiker*, I, 15, l. 28, from *Simp. Phys.* 24. 13: διδόναι γὰρ αὐτὰ (natural objects) δίκην καὶ τίσιν ἀλλήλοις τῆς ἀδικίας κατὰ τὴν τοῦ χρόνου τάξιν.

¹⁰ *Crat.* 412c.

¹¹ Benn, *Phil. of Gr.*, p. 143.

¹² *Lesser Hipp.* 365 ff.

the sort of virtue that one would expect to find inculcated by the moralists of this school!"¹ Nothing is said of Plato's mention of a work or section of a work by Protagoras, the humanistic leader, entitled 'Ἀλήθεια.²

Hippias' influence on the Cynics and certainly his influence on the Stoics seems very much overrated. Suidas tells us that τέλος ὠρίζετο τὴν αὐτάρκειαν.³ Whatever this may mean, the only further evidence for any such qualities in Hippias' life is Plato's statement that the Sophist made his own clothes.⁴ It is at least fair to assume that Socrates' garments were fully as "natural" as those of the rich, showy, vain Hippias. As far as there is any evidence,⁵ it seems clear that Hippias' habits of life were as far as possible removed from those of the Cynics, and Cynicism was always much more a βίος than an ἐπιστήμη.

For Prodicus' physiocratic tendencies the evidence is, if possible, even less. In place of Dümmler's⁶ conviction that Prodicus was a defender of the theory that words have a basis in the nature of things, there must be set Gomperz'⁷ statement that there is no evidence that Prodicus even discussed etymology. Welcker⁸ and Zeller⁹ doubt whether he ever taught any science. In the *Eryxias*¹⁰ he distinctly puts himself forward as a "champion" of νόμος by asserting that virtue is not natural, but acquired. Benn¹¹ curiously refers to Philodemus' statement¹² that Prodicus was the first who "explained religion by the worship which men offer to the useful powers and products of nature," and uses it to show that Prodicus was devoted to φύσις. If such a statement shows anything, it would seem to show that Prodicus taught that religion was not natural, but a mere convention.

In the same naturalistic spirit Prodicus is said to distinguish "the approval that is given unfeignedly with the soul from the praise that is often given falsely in words."¹³ One might as well argue from Aristotle

¹ Benn, *Phil. of Gr.*, p. 141.

³ Ed. Dindorf, p. 1805e.

² *Theat.* 161c.

⁴ *Lesser Hipp.* 368c.

⁵ While classing Hippias with the champions of *Naturrecht*, Nestle in *Vorsokratiker*, p. 83, writes as follows: "Es ist zu bedauern, dass wir nichts Näheres übre die Ausgestaltung dieses Gedankens bei Hippias selbst wissen." True.

⁶ *Ak.*, p. 158 f.

⁹ *Phil. d. Gr.*, I, 1109 and n. 5.

⁷ *Apol. d. Heilkunst*², p. 104.

¹⁰ 398c.

⁸ *Kleine Schriften*, II, 522 ff.

¹¹ *Archiv. cit.*, p. 31.

¹² Diels, *Vorsokratiker*, II, 274, l. 28.

¹³ Benn, *Phil. of Gr.*, p. 141, referring to *Pro.* 337b.

Topics 112b22 that Prodicus was a Sybarite. Lastly, "in his famous apologue known as the *Choice of Heracles* he makes Virtue say that she will tell truly how things actually are as the gods [i.e., Nature] have made them."¹ The phrase is ἡπερ οἱ θεοὶ διέθεσαν τὰ ὄντα διηγῆσθαι μετ' ἀληθείας. Do Protagoras' references to the gods in his famous myth prove that he also was among the physiocrats?

It is not necessary to examine in detail the characterization of the "humanistic" Sophists, because on this point the theories of Benn and Dümmler are more in accord with the received views, although it seems that they have injected too exalted a moral theory into the remains of a Gorgias and a Thucydides. It may be noticed in passing that the Platonic Protagoras prefers *φύσις* to *τέχνη* because *φύσις* is the cause of true courage only, whereas *τέχνη* produces both the true and the false.² Wilamowitz³ thinks that Protagoras believed the origin of language to have been *φύσει*, because a part of his book was entitled *ὀρθοπέπεια*, but Gomperz⁴ has well noted that according to Diogenes Laertius ix. 48 Democritus wrote *πὸ ὀρθοπεπείας*, and Democritus is known to have believed that language originated *νόμῳ*. *Ὀρθοπέπεια* probably denoted only the right *use* of words, but may have included their etymology. In the *Gorgias*,⁵ Callicles, Gorgias' pupil, bases his whole theory of life on *φύσις*.

Whatever may have been true in reality, in Plato each speaker uses *φύσις* or *νόμος* in whatever way best suits the requirements of the argument which he is at that moment concerned to defend. Any more definite classification must rest on a partial review of Plato's mention of the Sophists and must turn into philosophical generalizations many a sentence which was inserted by Plato merely as a part of the literary and dramatic setting of the dialogue. Dümmler's⁶ characterization of Antiphon's views as an "eklektisch-dogmatischem System" seems a fine phrase to cover the whole Sophistic teaching on these points. Anyone who will read the scanty notices of Hippias and Prodicus in Diels's *Vorsokratiker* will see how exceedingly slight is the extra-Platonic evidence. The references from Plato and Xenophon cannot be used to

¹ Benn, *Phil. of Gr.*, p. 141, on Xen. *Mem.* ii. 1. 27.

² *Pro.* 351a.

³ *Herakles*, II, 62.

⁴ *Apol. d. Heilkunst*², p. 105.

⁵ *Gor.* 491e.

⁶ *Ak.*, p. 158.

fasten definite theories upon individual Sophists.¹ They do show how common it was to throw into this form the discussion of many of the popular arguments of the day. Aristotle's picture of the Sophistic discussions φύσις vs. νόμος is still the clearest and the most consistent with the facts as they remain to us: *πλείστος δὲ τόπος ἐστὶ τοῦ ποιεῖν παράδοξα λέγειν ὥσπερ καὶ ὁ Καλλικλῆς ἐν τῷ Γοργία γέγραπται λέγων, καὶ οἱ ἀρχαῖοι δὲ πάντες ὥοντο συμβαίνειν παρὰ τὸ κατὰ φύσιν καὶ κατὰ τὸν νόμον.*²

¹ On the whole discussion see Shorey in the *New York Nation*, July 20, 1899, p. 57, and in his "Interpretation of the Timaeus," *Am. Jour. of Philology*, IX, 405; Sidgwick in the *Jour. Phil.*, V, 74; H. Gomperz, *Sophistik u. Rhetorik*, pp. 76-78, reviewed by Shorey in *Class. Phil.*, VIII, 239.

² *Top.* 173a7.

CHAPTER XI

PERIPHRAISIS

The term periphrasis is used in two slightly different ways which have caused some confusion in the interpretation of φύσις. Sometimes periphrasis means merely a roundabout manner of expression. In this type of periphrasis, as it ordinarily occurs, the main idea is expressed by a dependent genitive or adjective, and the noun on which the limiting word depends is in thought subordinate. Examples of this idiom are frequent in Homer and throughout all literature. βίη Ἡρακλεήη is not the "might of Heracles," but "the mighty Heracles." This is an idiom of the language commonly used with very many words. But the term periphrasis is sometimes used for that figure of speech in which for rhetorical or poetical effect there is inserted a word wholly unnecessary to the thought, a word which a strictly logical statement would have left unused. This form of periphrasis, like the other, commonly consists of the combination of the noun with a dependent genitive, but in this case the noun has not only weakened to a modifying adjective, but its meaning has disappeared altogether. This second type of periphrasis is also found in Homer, but much less frequently than the former. *Υἱες Ἀχαιῶν* means no more than *Ἀχαιοί*, just as in English "children of men" is often used as the equivalent of "men." This kind of periphrasis is found throughout Greek literature. Some words so used are γένος,² δέμας,³ εἶδος,⁴ ιδέα,⁵ κάρα,⁶ σχῆμα,⁷ σῶμα,⁸ χρῆμα.⁹

¹ i. 162 and often. Sterrett interprets, "descendants of the princely men of yore, i.e., my compeers." This seems purely fanciful.

² *Phil.* 30a: τὸ τῆς αἰτίας γένος; *Tim.* 74b: τὸ τῆς σαρκὸς γένος.

³ *Eumenides* 84: μητρῶον δέμας.

⁴ *Tim.* 75a: τὸ τῆς γλώττης εἶδος.

⁵ *Tim.* 70c: τὴν τοῦ πλεύμονος ιδέαν.

⁶ *Agamemnon* 905: φίλον κάρα.

⁷ *Philoctetes* 952: σχῆμα πέτρας; *Alceſtis* 911: σχῆμα δόμων.

⁸ *Herodotus* i. 32: ἀνθρώπου σῶμα.

⁹ *π ἀγμῶν* iii. 552: οὐδὲν γὰρ χρῆμα τοῦ ἀγκῶνος κάμψαι δύνανται. As might be expected, both forms of periphrasis are rare in the *Hippocratica*.

The existence of this second type of the periphrasis of φύσις is denied by Schneider,¹ by Ast² in his later editions, and, impliedly, by Kuehner-Gerth.³ These men wish always to find some emphasis on the real or inner nature of an object as opposed to its outer features. There seems, however, no doubt of the existence of many instances of a pure periphrasis.

This form of the idiom is common in Latin, particularly in Cicero⁴ and Lucretius,⁵ as has often been noted, but exception must be taken to those⁶ who adduce Cicero *De fin.* v. 33 as a proof. The passage is as follows: "Quamquam assentior iis qui haec omnia regi natura putant, quae si natura neglegat, ipsa esse non possit, tamen concedo, ut qui de hoc dissentiunt existiment quod velint, ac vel hoc intellegant, si quando naturam hominis dicam, hominem dicere me." Cicero is not here explaining the idiom *natura hominis*. He says, in effect, that men like those things that tend to their preservation, and that according to the philosophical theory of the speaker this tendency is due to the work of the Stoic "natura," but if anyone disapproves of that theory, he may say that the fact in question is due, not to a Stoic *natura hominis*, but merely to *homo* with any or no philosophical implications.

With φύσις as with other words used in these idioms it is evident that there can be no mathematically accurate division between these two types of periphrasis, nor will it always be possible to say with certainty that a particular instance belongs to one type or to the other or, indeed, that it is either. Such decisions must rest upon the context and the tone of each individual passage.

¹ On Isoc. 7. 74.

² He interprets *Laws* 770d, εἴτε ἄρρηγν τις τῶν ξυνοικούντων οὐσα ἡ φύσις εἴτε θήλεια, as a pure periphrasis, and in support refers to *Phaedrus* 248d and many other places. But in his note on *Phaedrus* 248c, published fifteen years later, he refuses to admit a purely periphrastic use of φύσις: "In voce φύσις eius fere latet significatio quod per se vel natura comparatum est, etiam quod omnino vel generatim ponitur." So *Phaedrus* 248c, ἡ τοῦ πτεροῦ φύσις, is now interpreted, "Haec penna natura ita comparata est ut alatur." In this later volume he thus reinterprets many of the sentences which in the earlier he made pure periphrases.

³ *Gram. d. Gr. Sprach.*, Part 2, Vol. I, p. 281. He says: "φύσις τινός wird oft von einer Sache nach ihrer natürlichen Beschaffenheit gebraucht." This he illustrates by *Symph.* 186b: ἡ φύσις τῶν σωμάτων τὸν διπλοῦν ἔρωτα ἔχει, and *Phil.* 30b: τὴν τῶν καλλίστων καὶ τιμωτάτων φύσιν. Both these are in Plato's poetical vein and are pure periphrases.

⁴ *De nat. deorum* i. 63; ii. 24, 136, and often.

⁵ i. 281 Munro; i. 194, 330, 710, 962; ii. 646.

⁶ Geddes and Wytttenbach on *Phaedo* 87e.

Of the first kind of periphrasis a few good examples are to be found in the *Hippocratica*. When the skull is fractured, the fracture will probably be found at a suture διὰ τὴν ἀσθενεῖν τῆς φύσις τοῦ ὀστέου ταύτης,¹ i.e., on account of the natural weakness of the bone at that place. Τὰ λευκὰ τῶν ὀφθαλμῶν οὐκ ἔχει τὴν φύσιν τῆς λευκότητος = "the whites of the eyes do not have their usual whiteness."² Plato says that grace and ugliness are found in all the products of both the useful and the fine arts and in ἡ τῶν σωματῶν φύσις καὶ ἡ τῶν ἄλλων φυτῶν.³ These words are not a pure periphrasis.⁴ They are not merely equivalent to τὰ σώματα καὶ τὰ ἄλλα φυτά. They point the polar antithesis so common in the *Republic* between art and nature, and are a rhetorical and emphatic way of saying that this much-desired grace and beauty or its opposite is to be found in the works of artist and of artisan, in products of nature like plants and animals, in absolutely everything, of whatever kind.

Plain instances of the second type are common in such poetical prose as Plato's *Timaeus*. Ἡ τῆς ἀνάγκης ἐκοῦσα πεισθεῖσά τε φύσις ὑπέεικε⁵ does not mean the "nature of necessity," but merely "necessity." The addition of φύσις serves only to throw a rhetorical indefiniteness about the word ἀνάγκη, as if Plato wished to say that he was making no assertion whatever about the character of ἀνάγκη, but ἀνάγκη, whatever that be, ὑπέεικε. Possibly it is over-subtle to assume even this flavor of indefiniteness as the meaning of φύσις. It may be absolutely and only rhetorical, but in many of the instances to be adduced in this section there seems to be found some slight connotation of rhetorical indefiniteness. Plato here knows that he is talking of ideal constructions. The thought is poetry, although the words are prose, and this is one of the hints by which he shows it.

The *Timaeus* is crowded with parallels to the foregoing example. Sometimes the accompanying word is abstract, as in κατὰ τὸ παράδειγμα τῆς διαιωνίας φύσεως,⁶ where instead of a genitive there is an adjective. Oftener the noun is concrete, e.g., τὴν τῶν βλεφάρων φύσιν.⁷ He whose life has somewhat failed of the ideal is at his next birth changed εἰς γυναικὸς φύσιν. If his evil life is not ended by this transformation, he

¹ π τῶν ἐν κεφαλῇ τρωμάτων iii. 226.

² π ἐπικυήσιος viii. 484 = π ἀφόρων viii. 416.

³ *Rep.* 401a.

⁴ Though Hardy so interprets (*op. cit.*, p. 144).

⁵ *Tim.* 56c.

⁶ *Tim.* 38b.

⁷ 45d; 70d; 74b: τὴν τῆς ὀστένης φύσεως; 74d: τὴν τῶν νεύρων φύσιν; 75a; 84c.

then changes εἰς τινα τοιαύτην θήρειον φύσιν,¹ where the τινα τοιαύτην only emphasizes the indefiniteness of the φύσιν.

The same usage is found elsewhere when Plato is writing in a poetical or imaginative vein. In the *Phaedrus* myth ἡ τοῦ πτεροῦ φύσις² means nothing but "the wing," unless perhaps there is a shade of that indefiniteness spoken of above. The same idiom is found in the grand climax in which soul is attributed to the universe as a whole,³ in the elaborate and fanciful explanation of why water rights should be protected by law⁴ and why caps should be worn.⁵

In later Greek this figure is very common,⁶ and the negligible meaning of φύσις is often shown by the parallel construction of the sentence.⁷

This usage may have originated from the extremely general character of the word φύσις. When Herodotus says that he is about to describe the nature of crocodiles,⁸ he means, of course, that he intends to mention whatever characteristics of those animals are so peculiar as to attract the attention of his Greek readers. But what is the real difference in meaning between that phrase and [φοῖνιξ] ἔστι τοσόσδε καὶ τοιόσδε?⁹ The former is more detailed, more rhetorical, more elaborate. That is all. When the rhetoric is still more elaborate, Herodotus says: φύσιν παρέχονται (οἱ ἵπποι οἱ ποτάμιοι) ιδέης τοιήνδε.¹⁰ φύσις has here become absolutely unnecessary. In such cases it is often difficult to decide whether the word really refers to the nature or characteristics of the

¹ 42bc.

² 248c; 251b: ἡ τοῦ πτεροῦ φύσις=τὸ πτερόν; 248d: θηρείαν φύσιν=θήρα; 254b: τὴν τοῦ κάλλους φύσιν=τὸ κάλλον.

³ *Phil.* 30b.

⁴ *Laws* 845d.

⁵ *Laws* 942c; cf. Xen. *Cyn.* 6. 4: οὐ γὰρ ἐπιμένει τοῦ ἱχνους ἡ φύσις.

⁶ Plut. *De plac. phil.* 878c: αἱ ἄτομοι τὴν τῶν ἀστέρων φύσιν ἀπετέλουν; Dio Chrys. 12. 204a, to keep from hearing the truth about the gods men pour into their ears μολύβδου τινὸς μαλθακὴν ὁμοῦ καὶ ἄτρωτον ὑπὸ φώνης φύσιν; Epictetus *Ench.* 27: οὐδὲ κακοῦ φύσις ἐν κόσμῳ γίνεται; Schweighäuser says this=οὐσία κακοῦ; it is probably a pure periphrasis; Plot. *Enn.* i. 6. 1: ἀρετῆς ἡ φύσις, see Creuzer on *de pulc.*, p. 139, who remarks that the flowery orator John Chrysostom was very fond of this figure.

⁷ Dio Chrys. 35. 435c: εἰσι δὲ λειμῶνες αὐτόθι πάγκαλοι, καὶ φύσις ἀνθῶν τε καὶ δένδρων; Plot. *Enn.* ii. 1. 3: καὶ ἀήρ οὐ μήποτ' ἐπιλείπη, οὐδὲ ἡ ὕδατος φύσις. Plut. *De igne et aqua* 956d: πῦρ μὲν οὖν ὀλεθριώτατον, ἡ δ' ὕδατος φύσις οὐδέποτε βλαβερὰ; Max. Tyr. 18. 3c: τῇ τοῦ καλοῦ φύσει, several times paralleled by τῷ καλῷ. With these cf. π ἀέρων ii. 14: νοσήματα ἐπιχώρια οὔτε τῶν κοινῶν ἡ φύσις.

⁸ ii. 68.

⁹ ii. 73.

¹⁰ ii. 71; cf. Aesch. *Supp.* 496: μορφῆς δ' οὐχ ὁμόστολος φύσις; π ἀέρων ii. 58: ὦραι αἱ μεταλλάσσουσι τῆς μορφῆς τὴν φύσιν.

object described or whether its force has quite disappeared. It is safe to say that in some way φύσις generally colors the meaning of a sentence unless the rhetoric is highly ornate or the meaning of the phrase perfectly concrete or unless the usage has become a technical mannerism, as is sometimes said to have been the case in the Pythagorean literature, for example, in such productions as the *π ψυχᾶς κόσμῳ καὶ φύσις*.

In Aeschylus, the most rhetorical and ornate of the three great dramatists, four out of five occurrences of φύσις show a meaning so weak as hardly to affect the sense, while in two it is so weak as to be untranslatable. The line from the *Supplikes* has been quoted in a note above. In the *Persae*¹ φύσιν is inserted as an accusative of specification, where it serves chiefly to balance other accusatives in the following line. In the *Prometheus*² there is found a similar accusative which adds to the ὄγκος of the rhetoric. In a much-discussed line of the *Agamemnon*³ χθονὸς φύσιν seems to be a pure periphrasis for χθόνα, which is itself a bold expression for the earth and all that there is therein. There is no parallel for an interpretation like that of Klausen, which takes the sense of φύσις from its verbal meaning and makes it the equivalent of ὅσα φύεται.

A rather uncertain fragment from Pindar⁴ speaks of slaves as φέρειν ἀνάγκην ἔχοντες ἀλλότρια μεριμνάματα καὶ κέαρ ἀλλοτρίας φύσεως. Here the two clauses are not much different, except in the form of expression. 'Αλλότρια almost = ἀλλοτρίας φύσεως.

In the early philosophical poetry both Empedocles and Parmenides use φύσις in sentences where its meaning is almost negligible. The sentence⁵ from Empedocles is so fragmentary as to be unintelligible when taken by itself. But in the contexts in which it is quoted and in

¹ 441: Περσῶν ὅσοι περ ἦσαν ἀκμαῖοι φύσιν,
ψυχὴν τ' ἄριστοι κεύθνεϊαν ἐκπρεπεῖς.

² 489: γαμψωνύχων τε πτῆσιν οἰωνῶν σκεθρῶς
διώρις, οὔτινές τε δεξιὸι φύσιν
εὐωνύμους τε.

Liddell and Scott classify under "of the mind . . . character"

³ 633: Οὐκ οἶδεν οὐδεὶς ὥστ' ἀπαγγεῖλαι τορῶς,
πλὴν τοῦ τρέφοντος Ἑλλου χθονὸς φύσιν;

cf. Xenophanes Fr. 31: ἥελίος θ' ὑπεριέμενος γαῖάν τ' ἐπιθάλλων. James Kennedy, Conington, Stanley, Dindorf, Blomfield, and Passow accept the above interpretation. Bothe, Verrall, and Heidel, π φύσεως, n. 124, agree with Klausen. Browning's translation is absolutely literal, but gives a sense quite foreign to the Greek: "Helios who sustains earth's nature." Von Enger renders "Leben des Erdbodens."

⁴ 278, ed. Christ, from Theodore Metochita.

⁵ 63: ἀλλὰ διέσπασται μελέων φύσις· ἡ μὲν ἐν ἀνδρός. . . .

the paraphrases of the sentence which are to be found in late Greek authors the φύσις is invariably omitted. Μελέων φύσις becomes μέρη or μόρια. The quotation of the line in Aristotle *De gen. an.* 722b10 is not clear. It is several times referred to by Philoponus in his commentary on the *De gen. an.*, but it is not certain that he knew anything of the context in Empedocles except what he found in Aristotle. He paraphrases the line from Empedocles διασπᾶ τὰ μέρη τοῦ γινομένου.¹ His explanation of the exact process is quite confused, but he constantly neglects the word φύσις. Again he says: Ἐμπεδοκλῆς ἔλεγεν ἀπέρχεσθαι καὶ ἀπὸ τοῦ πατρὸς καὶ ἀπὸ τῆς μητρὸς μέρη.² It certainly seems, then, that Philoponus regarded the φύσις as a mere periphrasis. Galen paraphrases the same line as follows: Ἐμπεδοκλῆς διεσπᾶσθαι φησι τὰ τοῦ γεννηθησομένου μόρια, καὶ τὰ μὲν ἐν τῷ τοῦ ἄρρενος σπέρματι τὰ δ' ἐν τῷ τῆς θηλείας περιέχεσθαι.³ This also makes the φύσις a periphrasis. The vagueness of the meaning of φύσις in this line is also shown by the fact that each translator can use the word most needed by his own theory and yet produce a sense in harmony with that required by the context in Aristotle. Woodbridge and Diels translate "origin," Burnet and Heidel⁴ "substance," Fairbanks "nature," Hardy⁵ "individueller Beschaffenheit."

In the case of Parmenides 16⁶ the case is not so clear. The language is much the same as in the fragment from Empedocles, but that resemblance in itself proves nothing. The μελέων φύσις which is the thinking faculty seems to mean no more than μέλεα. As is the μελέων κρᾶσις, so is the mind of the man, for the thinking faculty is the physical body. Such seems the purport of this obscure fragment. But μελέων φύσις might perhaps be the equivalent of μελέων κρᾶσις. This is a use of φύσις well known to the physicians, but here it offers an inferior sense. It is not the constitution of the limbs that thinks, but the limbs, and the thought differs according to the μελέων κρᾶσις.

¹ Ed. Hayduck, p. 169, l. 32. See p. 166, l. 24.

² P. 27, l. 4.

³ *De sem.*, Kühn, IV, 616.

⁴ π φύσεως, n. 88. He compares π γονῆς vii. 484, where ἐν φύσει is either merely an adverbial phrase or means "constitution." See p. 93, n. 3.

⁵ *Op. cit.*, p. 22.

ὥς γὰρ ἐκάστοτ' ἔχει κρᾶσιν μελέων πολυπλάγτων,
τῶς νόος ἀνθρώποισι παριστᾶται· τὸ γὰρ αὐτό
ἔστιν ὅπερ φρονέει μελέων φύσις ἀνθρώποισιν
καὶ πᾶσιν καὶ παντί· τὸ γὰρ πλεον ἐστὶ νόημα.

Burnet translates "substance," Diels and Heidel, n. 88, "Beschaffenheit." Theophrastus *De sensu* 3 explains μελέων κρᾶσις as the mixture of warm and cold in man.

In Sophocles and Euripides periphrases of this kind are far more uncommon than in Aeschylus. In *O.T.* 335 Oedipus cries out to Teiresias:

καὶ γὰρ ἄν πέτρου
φύσιν σύ γ' ὀργάνειας.

This is the nearest approach in Sophocles to a pure periphrasis with the genitive. Even here it may be that φύσιν is not entirely meaningless. It may mean "character." The line could then be paraphrased, "You would anger one with a character of flint." θνατὰ φύσις¹ is a vague phrase meaning "mortal stuff" or "mortal." In Euripides κατὰ γνώμης φύσιν²=κατὰ γνώμην. In *Ion* Fr. 1, l. 12, τῶν ἀγαθῶν βασιλεὺς οἶνος ἔδειξε φύσιν, the phrase means "what things are good."

Φύσις with the genitive of a pronoun is sometimes used as a periphrasis for the pronoun.³ But sometimes the φύσις in this idiom may mean "natural disposition."⁴ In Isocrates 2.12 τὴν ἡμετέραν φύσιν is used as a parallel expression to ἡμᾶς αὐτούς.

In the *Epinomis* there are several good examples of periphrasis: τῆς στερεμνίας φύσεως,⁵ τῇ στερεᾷ φύσει,⁶ χειμῶνων τε καὶ τῆς θερινῆς φύσεως.⁷ In this last instance the parallelism between winter and summer is exact. The writer says that we must call τὴν τῶν ἄστρον φύσιν the first gods.⁸ Heidel⁹ has attempted to translate the first of these examples, 981d, by "element," but there is no difference between this and the last two, and in these latter "element" is an impossible rendering. In Aristotle, especially in the natural history books, frequent use is made of periphrasis. ἡ τῶν χειλῶν φύσις=τὰ χεῖλη.¹⁰ ἡ τῶν ὀδόντων φύσις=οἱ ὀδόντες.¹¹ There is often the same ambiguity about these phrases as was mentioned in connection with the examples from Herodotus. When they are followed by a description of the object, they may very well be translated "nature" or "character." When they are subjects of verbs denoting action, it is hard to avoid the conclusion that φύσις is a part of a pure periphrasis used instead of the name of the object.

¹ *O.T.*, 869.

² *Hippol.* 377.

³ Herodotus IV. 50: μένων τῆς ἐωντοῦ φύσιος γίνεταί; *Clouds* 515; *Laws* 869c: τοὺς εἰς φῶς τὴν ἐκείνου φύσιν ἀγαγόντας; Isoc. 12. 228; 15. 180; 2. 37, cf. 15. 115: τὴν τοῦ σώματος φύσιν.

⁴ *Laws* 747b: τὸν . . . ἀμαθῇ φύσει ἐγείρει . . . παρὰ τὴν αὐτοῦ φύσιν ἐπιιδόντα θεῖα τέχνη.

⁵ 981d.

⁹ *Op. cit.*, n. 95.

⁶ 990d.

¹⁰ *De part. an.* 659b20, 28.

⁷ 987d.

¹¹ *Ibid.* 661a34, 37.

⁸ 984d.

An unusual idiom which seems to be the equivalent of a pure periphrasis is found in a fragment which may have come from Philolaus: *ἃ φύσις δ' ἐν τῷ κόσμῳ ἀρμόχθη ἐξ ἀπείρων τε καὶ περαινόντων καὶ ὅλος ὁ κόσμος καὶ τὰ ἐν αὐτῷ πάντα.*¹ This is practically equivalent to *ἃ φύσις τοῦ κόσμου = ὁ κόσμος*, which is picked up and explained in the latter part of the sentence. Aristotle has a parallel in *αἱ ἐν τοῖς ἀριθμοῖς φύσεις* *ἔοικεν οὕτωςί γε σκοπομένοις διαφεύγειν.*² Aristotle is there discussing the Pythagoreans, and this manner of speaking may have been affected in their school, as the use of periphrasis in general is sometimes said to have been one of their mannerisms.

It is not to be understood that in all the references given above the force of *φύσις* has disappeared entirely or that it does not at all color the sentence, but in all these places its meaning is very slight—so slight that its presence has only a rhetorical effect. Further light on this use may be found in a comparison with the extremely indefinite manner in which *φύσις* is often employed. In Plato and Aristotle it is often used merely as we use “thing.” This usage is so common and so much neglected that it deserves note.

To begin with a rather late example, a riddle ascribed to Theodectes³ begins as follows:

τίς φύσις οὐθ' ὅσα γαῖα φέρει τροφὸς οὐδ' ὅσα πόντος.

It is evident that in this sentence *φύσις* means nothing. “What is it that,” “What is the thing that,” would be full translations.

This loose and indefinite construction is much more frequent than has sometimes been supposed. *φύσις ἀνθρωποειδής*⁴ is a “human-shaped thing.” *ἡ τοῦ ἀνθρώπου εὐεξία φύσις τίς ἐστι φύσει περιποιημένη κίνησιν οὐκ ἀλλοτρίην ἀλλὰ λίην γε εὐαρμοστέδσαν.*⁵ This last sentence is noteworthy as showing in a crude way the same notion of *φύσις* as Aristotle defined to be the primary meaning of the word. Plato thinks that the cause of the deterioration of states may be a bad lawgiver or chance: *εἴτε καὶ φύσις ἄλλη τις τοιαύτη.*⁶ In the *Timaeus* 50b space is

¹ Fr. 1. Diels translates “Die Natur bei der Weltordnung.” Cf. *π τόπων* vi. 282: *ἡ φύσις τῇσι φλεψὶν ἐν ὑγρῷ ἐστιν ἐν τῇσι σαρκί*, which Littré translates, “par leur nature les veines sont dans l'humide au milieu des chairs.”

² *Met.* 1093b7.

³ Fr. 18. This seems to have been one of the recognized beginnings for riddles. Another commencing in the same way is quoted from Antiphanes in *Athenaeus* 450e. See Pietzsch, *De Calliae Grammatica*, p. 20, for other examples.

⁴ *π νούσων* Bk. IV. vii. 542.

⁵ *παραγγελαί* ix. 266.

⁶ *Laws* 750d. For many examples in Aristotle see Hicks, ed. *De an.*, p. 228.

ἡ τὰ πάντα δεχομένη σώματα φύσις—"the something that holds all things." This is something similar to the use of πεφυκέναι for "is," a good example of which is found in Euripides *Heracles* 1344: οὐδ' ἄλλον ἄλλον δεσπότην πεφυκέναι.

It is probably such constructions as these that make Heidel¹ call the periphrastic use of φύσις "a by-product of logical definition" and assume that therefore instances of φύσις in periphrasis cannot occur before the Socratic period. He offers no instances nor proof. This may be true with reference to such periphrases as those of the possibly pseudo-Philolaos, the ἡ θατέρου φύσις² and ἐκατέρου φύσις³ of the Sophist, where the word seems a mixture of φύσις=idea or class and φύσις=pure periphrasis, ἡ τοῦ ψεύδους φύσις,⁴ etc., but it is a very rash statement to make with reference to φύσις as a whole. The indefinite uses from which its use for "class," "kind," seems at least partly to owe its origin are too widely spread for that. It is true that in the Socratic school the principles of definition were first formulated, but the *Hippocratica* contain several foreshadowings of the Aristotelian use of φύσις for "definition." Μία φύσις ἐστὶ ταῦτα πάντα καὶ οὐ μία. πολλὰ φύσιές εἰσι ταῦτα πάντα καὶ μία.⁵ The author is referring to various kinds of excretions. Galen's explanation of this sentence is correct: "὘ν γὰρ ἐστὶ τὸ τῶν περιττωμάτων γένος. καὶ οὕτω πάντα μία φύσις ἐστίν, οὐ μὴν ἀλλὰ μία τῷ εἶδει, ἀλλὰ τῶν ἐτέρων εἰδῶν.⁶ Just before the sentence above quoted from the π τροφῆς the author set forth a dictum that contains the same use of φύσις: δυνάμιος δὲ ποικίλαι φύσεις.⁷ Perhaps the thought that lay back of this manner of expression is illustrated in Diogenes of Apollonia Fr. 2, where he seeks

¹ N. 128.

³ 245c.

² 255d, 256d, 257c, d, 258a, d.

⁴ Arist. *Top.* 101a1.

⁵ π τροφῆς ix. 104. Cf. also 106: μία φύσις εἶναι καὶ μὴ εἶναι.

⁶ εἰς τὸ 'Ιπ π τροφῆς xv. 334 K.

⁷ 102. Heracleides of Tarentum, quoted with approval by Galen, Kühn, XV, 293, says that this means that there are many potencies in each faculty, i.e., the attractive, repellent, etc. This may be over-interpretation, but at any rate it shows the logical use of φύσις for "class" growing out of the indefinite use. Cf. also π διαίτης δέξων νόθα ii. 496: ὑδρώπων δύο φύσεις. An intermediate stage is also illustrated by *Rep.* 429d, μίαν φύσιν τὴν τῶν λευκῶν, where the literal translation reads, "one kind, that of the white ones." Stallbaum calls this a pure periphrasis=μόνα τὰ λευκά. A sentence in form almost parallel is Arist. *De mundo* 396b14: ὡχρῶν τε καὶ ἐρυθρῶν χρωμάτων ἐγκερασμένη φύσις. It might be supposed that here φύσις had more meaning and that it should be translated "having mixed the natures of colors yellow and red," but the writer illustrates his point by two other illustrations in neither of which does φύσις occur: μακροῦς τε καὶ βραχείς φύσιν μελίσσας; ἐκ φωνηέντων καὶ ἀφώνων γραμμάτων κρᾶσιν ποιησαμένη.

to prove that the apparent differences in things must have sprung from original unity.

Among these indefinite usages belong also *τις φύσις* weakened for "any nature," "any character," till it is practically the same as *τίς* alone and equals "anybody."¹ Sometimes it is still further weakened till it equals "anything"² or "something."³ In like manner *πᾶσα φύσις* equals "everybody."⁴ *θνητὴ φύσις* sometimes means "anything mortal."⁵ *βάρβαρος φύσις*⁶ is very nearly the same as *βάρβαρος*, "a barbarian."

There are also several idioms in which the force of *φύσις* is so weakened that it has little or no place in the meaning of the context and is used for rhetorical effect. *φύσιν* and *τὴν φύσιν* are both frequent as accusatives of specification. Sometimes the word so used has a definite meaning. It is contrasted with *νοῦν*.⁷ It means "in birth,"⁸ "in physical appearance,"⁹ "in manners,"¹⁰ "in sex,"¹¹ "in personal character,"¹² or anything else that *φύσις* may be used for. But often these accusatives of specification have no appreciable meaning and merely add a rhetorical turn to the sentence or fill out the meter. The presence or absence of the article makes no difference in the meaning.¹³

φύσει is even more commonly so used. Literally *φύσει* = "because of its nature," while *φύσιν* or *τὴν φύσιν* = "in respect to its nature." But the weakening of both idioms has progressed until either may mean

¹ *Epin.* 992a.

² *Epin.* 983a.

³ *Ar. Met.* 1001a25. Lasson translates, "Wesenheit."

⁴ *Xen. Cyr.* vi. 2. 29; *Mem.* iii. 9. 2; *Rep.* 359c; *Pol.* 272c, where the animals are included only because they are personified; *Epin.* 990a.

⁵ *Axiochus* 370b: οὐ θνητὴ γὰρ φύσις τοσόνδ' ἂν ἤρατο μεγεθουργίας. This cannot mean "human nature" as *θνητὴ φύσις* sometimes does, for the soul certainly is human.

⁶ *Aristophanes Thesm.* 1129.

⁷ *Birds* 371: τὴν φύσιν ἐχθροί, τὸν δὲ νοῦν εἰσιν φίλοι; *Soph. El.* 1023: ἡ φύσιν γὰρ τὸν δὲ νοῦν ἡσσω.

⁸ *Pers.* 441; *Soph. Aj.* 1259; *Ant.* 727; *El.* 1125.

⁹ *Birds* 1569; *Clouds* 503.

¹⁰ *O.C.* 338; *Eur. And.* 354.

¹¹ *Trach.* 1062.

¹² *Aj.* 549; *O.C.* 270; *Antisthenes Odysseus* 14.

¹³ So *φύσιν* in *Her.* i. 89; *Pro.* 489; *Aj.* 472; *Birds* 685; *Clouds* 276; *Ion* Fr. 1; *τὴν φύσιν* in *Clouds* 1187, *Knights* 518; *π διατρῆς* Bk. I. vi. 482; *Rep.* 376c, 550b; *Phaedrus* 252e; *Ar. De part. an.* 661b5.

almost or quite nothing.¹ Κατὰ φύσιν is a few times used in the same way.²

The original distinction between φύσει and κατὰ φύσιν is nicely illustrated by π ἐπικυήσιος, viii. 486: γυνὴ ἥτις παχέα παρὰ φύσιν ἐγένετο καὶ πείρα καὶ φλέγματος ἐπλήσθη, οὐ κνίσκεται τούτου τοῦ χρόνου. ἥτις δὲ φύσει τοιαύτη ἐστὶ. . . . But these phrases are often attached to adjectives and may be inserted or omitted at pleasure. *Ὡν φύσει φλεγματώδης ἦ is the exact opposite of ἣν δὲ χολώδης ἦ and ἣν φύσει ἦ χολώδης.³ φύσει is inserted or omitted in the course of the same argument. This loose and weak use of φύσις is especially common in Aristophanes,⁴ the *Hippocratica*,⁵ and Plato.⁶

¹ E.g., in π τόπων vi. 334 the writer says: ὁδὸν γίνεταί . . . ἐν μὲν τοῖσι ξηροῖσι φύσει ὑγραινομένοισιν, ἐν δὲ τοῖσιν ὑγροῖσι φύσει ξηραινομένοισι· τὴν γὰρ φύσιν διαλασσομένοις ἐκάστοισι καὶ διαφθειρομένοις αἱ ὁδοὶ γίνονται. Littré in both cases omits the φύσει in translation, but translates τὴν φύσιν διαλασσομένοις "changement de nature." In the Greek τὴν φύσιν merely repeats the φύσει.

² π φύσιος γυναικείης vii. 312: ἀρχομαι ἀπὸ τοῦ ὑγροῦ κατὰ φύσιν; ἀφορισμοί iv. 482: οἱ παχέες σφόδρα κατὰ φύσιν ταχυθάνατοι γίνονται. Here Galen XVII, Pt. II, 547, Kühn, translates ἐκ τῆς πρώτης ἡλικίας, and Theophilus in Dietz, *Scholia in Hipp.*, II, 336, renders by τοὺς ἐκ γενετῆς. They may be right, but are more likely suffering from the commentators' fallacy of over-interpretation.

³ π φύσιος γυναικείης vii. 370. Cf. also π νούσων Bk. II. vii. 86: ἣν μὴ σπληνώδης ἦ φύσει with ἣν δὲ σπληνώδης ἦ.

⁴ See p. 26, n. 73.

⁵ π ἀνατομῆς viii. 538; π ἀρχαίης ιητρικῆς i. 598; π διαίτης Bk. I. vi. 498; Bk. II. vi. 536, 544, 546, 570, 580; π διαίτης ὀξέων ii. 358, 360; π ιερῆς νούσου vi. 366; κατ' ιητροῦν iii. 314; π παθῶν vi. 268: διαφέρουσι αὐτοὶ ἐνωτῶν φύσει ἐς ἰσχύν. Littré omits φύσει in his translation. Cf. also Thuc. v. 103. 1; iv. 3. 2; Eur. Fr. *Bellerophon* 290.

⁶ *Rep.* 376c, 434a, 443c, 444b, 455e, 441a, τῷ λογιστικῷ φύσει, 486d.

CHAPTER XII

"ELEMENT"

Does φύσις ever in the Greek of the fifth century mean "element"? This question has been much discussed since Burnet set forth his theory that "primary substance" was the fundamental meaning of the word in pre-Socratic thought. Reasons have already been urged for refusing to accept this dictum. It has also been pointed out that in treating the meaning of φύσις far too much stress has often been laid on the idea of origin sometimes associated with the word. It remains to inquire whether in pre-Aristotelian Greek φύσις is ever used in a sense which can be fairly translated "element."

I do not know of a single instance that can be so translated. Those offered by Burnet have elsewhere been discussed.¹ Heidel devotes several pages² to a discussion of this meaning, but notes few definite instances. To quote Aristotle is irrelevant. After the doctrine of the four causes had been worked out and there had been developed a scientifically accurate statement of the implications of φύσις, it might be possible to use this word to represent that part of the informing principle of a thing which Aristotle called the material cause, i.e., "element." It is likely that even Aristotle seldom used the word in this way. This derivation of the meaning "element" is manifestly impossible for a pre-Socratic. The fact that the pre-Socratics regarded material causes as the only causes does not prove that they named those causes φύσις. Empedocles Fr. 63 is probably a periphrasis. Π γονῆς vii. 484³ is at least a phrase of doubtful meaning, which occurs rarely. If it is not merely an adverbial and indefinite use that is equivalent to "naturally," it is the equivalent of ἐν τῇ φύσει and refers to the constitution or body of the

¹ Pp. 65 ff.

² π φύσεως, pp. 101-4. Diels (*Elementum*, p. 16) makes a general statement to the effect that with Anaxagoras, Leucippus, and Democritus φύσις was one of the many words used for "elements." He gives no references.

³ ἐπὶν δέ τί οἱ νόσημα προσπέσῃ καὶ τοῦ ὑγροῦ αὐτοῦ, ἀφ' οὗ τὸ σπέρμα γίνεταί, τέσσαρες ἰδέαι ἐοῦσαι, ὁκόσαι ἐν φύσει ὑπῆρξαν, τὴν γονὴν οὐχ ἄλλην παρέχουσιν. On the phrase ἐν φύσει cf. π γυναικῶν viii. 30: ἧσι δὲ ἐν φύσει ἐστὶ . . . with 56 ἣν μὴ ᾗ ἐν τῇ ἀρχαίῃ φύσει τουτέων τι. Cf. also π ἀέρων ii. 58: τοῦ δὲ χρόνου προϊόντος, ἐν φύσει ἐγένετο. The history of ἐν φύσει seems much like that of κατὰ φύσιν and in π γονῆς vii. 484 is probably an indefinite adverbial phrase.

parent, not to the "substance contributed by the parents to the birth of their offspring." In a long translation from π φύσιος ἀνθρώπου (vi. 38 ff.) Heidel always translates φύσις by "constitution" or some equivalent. It is hard to see how this proves that the word means "element." Aristotle *Met.* 987a17¹ is an example of the indefinite use spoken of on pp. 102 ff. and means "some things," not "elements." The sentence says, not that τὸ ἄπειρον and τὸ ἔν are elements, but that they are different. Philodemus *De morte*² can hardly refer at all to elements in the pre-Socratic sense of first substance or in the Aristotelian sense of first cause. "Their original nature" would quite fairly translate the Greek. Whatever there is of "primary" or "elemental" in the phrase lies in the adjective πρῶτας, not in the noun φύσις. *Epinomis* 981d seems to be a periphrasis. These are the instances by which Heidel seeks to prove this meaning.

It is conceivably true that to a pre-Socratic entirely engrossed with the search for a primary substance, if there were such pre-Socratics, the nature or character of any object might in his mind become entirely identified with the elemental substance or substances out of which that object was composed. But that is not the same as saying that φύσις was used indifferently for both. For that there is no evidence. The author of π ἀρχαίης ἡγηρικῆς³ says that each of the elements ἰδίην δύναμιν καὶ φύσιν ἔχει, not that each of the elements *is* φύσις, and that is the usual manner of expression in these books. To a good socialist of today good government is identical with socialism, but may no scholars of a thousand years hence arise and so translate it.

Simplicius says⁴ that the followers of Democritus used φύσις for the atoms which in that philosopher's system of thought were opposed to the qualities of objects as men perceived them. If this statement could be relied on, it might be inferred, as it has been inferred, that these men received this use of φύσις from their teacher, and that Democritus, at least, used φύσις in the sense that Burnet thinks is its chief use among the pre-Socratics—"primary substance." But Heidel⁵ has well shown that Simplicius' statement may be nothing more than a misinterpretation of the passage of Aristotle on which he is commenting. In all the quota-

¹ τὸ ἄπειρον καὶ τὸ ἐν οὐχ ἑτέρας τινὰς ᾗ ἤθησαν εἶναι φύσεις.

² Diels, *Vorsokratiker*, II, 56, l. 5: πάντες . . . τὸ πέρας εἰς τὰς πρῶτας ἀναλύονται φύσεις.

³ i. 600.

⁴ Democritus Fr. 168 from Simplicius on Arist. *Phys.* 1318. 33.

⁵ π φύσεως, n. 97.

tions from Democritus other words than φύσις (ἐτεῖν, τῷ ἐόντι, γνησίῃ) are used to denote the contrast between the objective and the subjective. It is, however, quite possible that Democritus did use φύσις in speaking of the objective or real nature of objects¹ as distinguished from the subjective perception. These fundamental qualities were the qualities which he was concerned to explain. These qualities he would then speak of as φύσει. In this way φύσις came to be used by the philosophers for the real, essential qualities of things, just as it came to be used by the Sophists for those qualities of human character in which they were interested. This is far from saying that it was used for the element which produced or exhibited certain qualities.

A good illustration of this tendency is found in π ἀέρων ii. 36. The writer asserts that after having been once frozen water is never again the same, because the lighter elements evaporate away in the freezing. This he expresses as follows: ὁκόταν ἅπαξ παγῇ, οὐκ ἔτι ἐς τὴν ἀρχαίην φύσιν καθίσταται, ἀλλὰ τὸ μὲν αὐτοῦ λαμπρὸν καὶ κοῦφον ἐκκρίνεται καὶ ἀφανίζεται. Now a free paraphrase might translate the phrase τὴν ἀρχαίην φύσιν by "elementary or atomic constitution," but the notion of "elementary" or "atomic" is in the adjective ἀρχαίην, while the word φύσιν has no more than its ordinary signification, "quality or qualities." The use of ἀρχαίη or its equivalent is very common² to show that the writer has in mind elementary or original qualities and shows that the connotation of the word φύσις alone and unaccompanied had only to a slight degree included the idea of originality. When Heidel says³ that "these terms lead naturally, if indeed they do not belong, to the use of φύσις as constitution," he inverts the true order of relation.

¹ Huit (p. 314) and Hardy (p. 64, he refers to Theophrastus *De sensu* 63, 82, where the terminology is Theophrastus') so assert. Aristotle, *Fr.* 208 ed. Rose, Theophrastus, *De sensu* 60, 63, and Diogenes Laertius ix. 45 all assert that Democritus understood this distinction and use φύσις in their statements, but there is nothing to show that their terminology is that of Democritus. Sextus Empiricus, 7. 135-39, quotes several of Democritus' statements on this subject, but the word φύσις does not occur in them.

² See π ἀγμῶν iii. 556, where τὴν ἀρχαίην φύσιν = the preceding τὴν ἐνωτοῦ φύσιν, π ἀρθρων ἐμβολῆς iv. 118, 128, 236, 292, 302; π ἀφάρων viii. 454; π γυναικείων viii. 56; ἐπιδημιῶν Bk. II. v. 76, 80; Hipp. *Epistles* ix. 334; *Symp.* 191d, 192e, 193c; *Rep.* 611d; *Tim.* 90d; Isoc. 10. 64. After having blinded Stesichorus, Helen πάλιν αὐτὸν εἰς τὴν αὐτὴν φύσιν κατέστησεν, where τὴν αὐτὴν φύσιν, if not an actual corruption for τὴν ἀρχαίην φύσιν, is a Sophistic equivalent for it. Cf. Democritus *Fr.* 278: ἀνθρώποισι τῶν ἀναγκαίων δοκεῖ εἶναι παῖδας κτήσασθαι ἀπὸ φύσιος καὶ καταστάσιός τινος ἀρχαίης, with Herodotus viii. 83: ὅσα δὲ ἐν ἀνθρώπου φύσει καὶ καταστάσι ἐγγίνεσθαι, and *Rep.* 547b: φύσει ὄντε πλουσίῳ, τὰς ψυχὰς ἐπὶ τὴν ἀρετὴν καὶ τὴν ἀρχαίαν κατάστασιν ἡγέτην.

³ P. 104.

CHAPTER XIII

PLATO AND ARISTOTLE

This chapter on Plato and Aristotle makes no claim to completeness. Many passages from these authors have already been quoted to illustrate or explain the usage of earlier writers. It was thought best to insert a brief summary of the Platonic and Aristotelian usage because the ordinary Greek use of φύσις can be studied comprehensively in no earlier author than Plato. The dialogues contain practically all the varieties and shades of meaning which the word had then acquired. While Aristotle is formally more systematic than Plato, it will be found, I think, that in the main he follows Platonic usage. Moreover, in Aristotle there is found for the first time an attempt to formulate the lexicography of the word.

In general, Plato's use of φύσις conforms to the common practice of the writers of his time. Nearly all the meanings which he gives the word can easily be paralleled in Herodotus or in the fifth-century poets or physicians and are found in Xenophon and Isocrates. The most notable exception to this statement is Plato's use of φύσις for the "ideas." This is an innovation. For instance, in *Cratylus* 389c when the workman puts into the iron τὸ φύσει ἐκάστῳ τρύπανον πεφυκός Plato is using an expression equivalent to "the idea of an awl."

In this way he shows that the materialistic philosophy of his predecessors can be utilized only by completely reversing their conception of φύσις and using the word with an entirely new group of associations. If this word is to be used for the world as a whole, that world and its underlying ground must not be thought of as blind and material and unintelligent, but as mind and soul and as a world in which mental life and ideal reality are supreme. From one point of view this is Plato's great contribution to the scientific thought of his time, and it is often reflected in the associations connected with the word φύσις.

But it is far from true that in Plato φύσις always or usually contains a reference to the ideal world. Much oftener it merely repeats the ordinary meanings of the day, with no particular reference to any philosophical implications. It must always be remembered that φύσις was as familiar in the poetry and general literature of Greece as in her philosophy. Many an over-interpretation of a page of Plato or Aristotle is due to the fact that the interpreter has forgotten this consideration.

Plato frequently uses *φύσις* as a synonym of *τρόπος*,¹ *ἦθος*,² *ἔξις*,³ *ἔθος*,⁴ *βίος*⁵ = "manner of life." It then stands for "character," "manners," "disposition," oftenest of a person. It is often assumed that when so used the word always has more or less reference to character as inborn or original. I do not think that in Plato's time this idea was at all intimately or necessarily associated with the word. In the plays of Euripides and Aristophanes it is often used for all the characteristics which go to make up a man's disposition, whether those characteristics are original or acquired. There are in Plato many sentences in which someone's *φύσις* is distinctly spoken of as the result of training or education. In almost every case in which it demonstrably refers to elements of character that are innate there is in the context some word or phrase which so limits its application.

For instance, in the *Republic*, from the very beginning of the long section which is devoted to the proper constitution of the state and the development of its citizens, *φύσις* and its allied *φύω*⁶ are continually used for the "character" suited to a particular function. Many interpreters emphasize the idea of "origin" as part of the essential connotation of the word in this connection, so that *φύσις* means primarily "natural disposition or capability,"⁷ "indoles sive qualitas innata, contrarium autem est omnium qualitatum quae hominis arbitrio et voluntate rebus imperiuntur,"⁸ "das Erste,"⁹ "angeborenen Natur,"¹⁰ "angeborenen Energie."¹¹ "'Nature' in Greek Philosophy is never far removed from the meaning of the corresponding verb 'to be born' and 'to grow.'"¹²

Now in these same sections of the *Republic* which are dealing with the founding of the state and its basis in the differing characters of its citizens there are a number of places in which *φύσις* cannot mean "original

¹ Cf. *Rep.* 581b with 444d and 502a. See also Isocrates 1. 10 and Eur. *Iph. Aul.* 558 f. and *φυσιογνώμων* and its cognates, perhaps first in Arist. *De gen. an.* 769b20.

² Cf. *Pol.* 311b with 307c.

³ *Rep.* 591b.

⁶ E.g., *Rep.* 370a, 374b, 401c, 403a, and often.

⁴ *Ibid.* 395d.

⁷ Campbell, ed. *Rep.*, II, 320.

⁵ *Ibid.* 620c.

⁸ Peipers, *Ontologia Platonica*, p. 595.

⁹ Hardy, *Der Begriff der φύσις*, p. 119. Hardy thinks that beginning with 500bc *φύσις* is used in a way which includes experience, but interprets this as a proof that during the course of the *Republic* Plato's views change.

¹⁰ Krohn, *Platonische Staat*, p. 9.

¹¹ *Ibid.*, p. 84.

¹² Bosanquet, *Companion to Plato's Republic*, p. 384. Adam on *Rep.* 370a seems to hold an opinion exactly opposite: "It is not, however, human nature as it is, but nature as it ought to be, which is the foundation on which the Platonic state is built."

or inborn character.” One’s imitations of others’ acts become one’s own character and disposition.¹ Good nurture and education produce good characters.² By proper punishment the whole soul is changed into a character which is most perfect and receives a quality which is of greatest worth.³ Looking to the character of the soul, the man beneath the earth will choose the life to be lived when he returns above,⁴ and this character has just been described as a union of natural and acquired qualities. The philosopher has a well-nurtured disposition (ῥῆθος) and remains true to it (κατὰ φύσιν).⁵ In the eighth and ninth books φύσις is often used for the derived characters in the descending scale of worth which there occupies Plato’s attention—e.g., the tyrannical nature never attains true freedom.⁶ What is true in the *Republic* is true in other dialogues. The untrained soul, though noble, will degenerate into a bestial character.⁷

It is no doubt true that φύσις often has the meaning of primary, inborn disposition and is contrasted with one’s education or training. In this way φύσις, μελέτη, and διδαχή were the three commonly received elements of παιδεία and had so been recognized at least from the time of Protagoras. This contrast is often found in the *Republic* and is most clearly and fully stated in the *Phaedrus*⁸ in words almost exactly paralleled by Isocrates and by the Anonymus Iamblichi. But even here it is not to be supposed that whenever φύσις is spoken of as παιδευομένη native or inborn qualities of character are to be emphasized.⁹ One’s character can be developed, whether that character be original or acquired.

Plato three times uses φύσις for “cleverness” in a way almost equivalent to the English “talent.”¹⁰ This usage is frequent in the orators, beginning with Isocrates.

Φύσις is used as we use “instinct.” It is so applied to the watchdogs to which the guardian class is compared,¹¹ to a poet’s inspiration,¹² to the natural qualities which will become virtues if properly developed,¹³

¹ *Rep.* 395d.

³ *Ibid.* 591b.

² *Ibid.* 424a.

⁴ *Ibid.* 618d.

⁵ *Ibid.*, 496b.

⁶ *Ibid.*, 576a. In 485c a lying character is ἐν τῇ φύσει, while in 378–83 Plato shows the process by which a lying character originates.

⁷ *Pol.* 309e.

¹⁰ *Rep.* 367e; *Theaet.* 142c; *Symp.* 219d.

⁸ 270b.

¹¹ *Rep.* 375e.

⁹ E.g., *Rep.* 409d, 410b.

¹² *Apol.* 22c.

¹³ *Rep.* 530c. With this cf. Arist. *Eth. Nic.* 1144b3 and often.

to that "instinctive disdain of baseness"¹ which sometimes seems the only sincere goodness. When Plato wishes to condemn unnatural love, he says that a law forbidding lust ἀκολουθεῖ τῇ φύσει.² This statement deserves special attention in view of many recent assertions that no ancient writer condemned this vice.

But these are all specialized meanings which seem to have arisen in the Sophistic discussions of the fifth century. When any particular emphasis is to be laid on the innateness of the characteristics under discussion, Plato is careful to show his meaning by the use of some word or phrase in the context.³ Here belong also the many ways in which Plato turns the antithesis φύσει καὶ τέχνῃ⁴—a "polar" expression which includes all aspects of character, whatever their origin. The frequency of this polar antithesis is an indication of Plato's attitude toward the Sophists' quibbles about the claims of νόμος and φύσις. It is his way of saying that for his argument it makes no difference whether a man's qualities be the result of τέχνη or of φύσις, whether they be natural or acquired.

Sometimes the force of the word is very slight, so weak that it hardly affects the meaning. Ἡ φιλόσοφος φύσις⁵ almost equals "the philosopher." Τῷ λογιστικῷ φύσει,⁶ "that part of the soul which is reasonable in character," equals "the reasonable part of the soul." Τὸ μὴ κακοῦ ἀνδρὸς εἶναι τὴν φύσιν,⁷ "the fact that he is a man not evil in disposition," would not be much affected by omitting the "in disposition." The same is true of πεφυκῶς in πρὸς τὸ δὴ πεφυκῶς εἶναι ἀμιλλᾶσθαι.⁸

It is in this most inclusive sense that Plato speaks of a state founded κατὰ φύσιν⁹ or παρὰ φύσιν.¹⁰ This means simply that each shall perform his own function, live out his character, train it as highly as possible, and in these ways form a disposition which shall be most efficient in working for the welfare of the state. It is evident how entirely different is this conception from that of the early Cynics, who by living κατὰ φύσιν meant ridding themselves of all the conventions of society. To Plato the φύσις according to which one should live may be the product of

¹ *Rep.* 366c: *θελεῖ φύσει*. See Shorey, *Idea of Good*, p. 219, and cf. *Laws* 642c: *αὐτοφυῶς θελεῖ μοίρα*; *Laws* 875c: *θελεῖ μοίρα*. On *θελεῖ μοίρα* as the equivalent of *θελεῖ φύσει* see Zeller, *Phil. d. Gr.*, II, 594, n. 4. On the whole idea cf. Aristotle's idea of a *παμβασιλεύς*.

² *Laws* 836b.

³ E.g., *ἐξ ἀρχῆς*, *Rep.* 411b; *ἐπειτα*, *Rep.* 434a; *ὑπάρχειν*, *Rep.* 503b.

⁴ *Rep.* 381a and often.

⁶ 441a.

⁸ *Ibid.* 490a.

⁵ *Rep.* 410e.

⁷ *Rep.* 550b.

⁹ *Ibid.* 428e.

¹⁰ *Ibid.*, 456c.

nature or of training. The essential requirement is that, however one comes by his *φύσις*, he should live according to it, and not try to do things for which he is not fitted. In this way Plato may be said to transcend the Sophistic, eristic antithesis between talents and training. He bases his state upon *φύσις*, it is true, but his *φύσις* is one which includes, instead of excludes, nurture, education, civilization.

One passage in the *Laws* has been so often quoted that it merits a fuller treatment. In support of his assertion that *φύσις* in the pre-Socratics means "substance" Burnet quotes *Laws* 892c: *φύσιν βούλονται λέγειν γένεσιν* [i.e., *τὸ ἐξ οὗ γίγνεται*] *τὴν περὶ τὰ πρῶτα* [i.e., *τὴν περὶ τῶν πρώτων*]. It must be remembered that Plato is not here interested in explaining the pre-Socratic use of the word *φύσις*. He is in this passage trying to show the origin of the contemporary flagrant disregard of moral values. This arises, he says, from the naturalistic standpoint of the physical philosophers. The naturalistic standpoint of these early thinkers was adopted by superficial Sophists who have not discovered that it has been outgrown. It is well enough, says Plato in effect, to speak of nature and the powers and forces that reside in nature as ultimate, but then nature must be understood to include mind, thought, and purpose, and the fault in the early conceptions of nature lay just in their neglecting those elements, which are really the primary factors. If it is true that nature arises from combinations of the atoms or can be reduced to some soulless and therefore blind and purposeless element, then we might think of moral and religious laws and customs as secondary and of small importance. But nature, correctly understood, contains moral and purposive regulations, and is originated and controlled by forces that are allied to intelligence and not to matter. A true explanation of the meaning of nature leaves the Sophistic depreciation of moral ideas without a foundation.

We need not try to fix upon any individual thinker the conception of nature to which Plato finds himself opposed. He is opposing one method of thinking, one type of thought, to another, and the type against which he argues was common to all the pre-Socratics. When in the twelfth book¹ the argument is summarized, the language is such as more particularly to recall Anaxagoras' ideas. For this there is probably the same reason as in the *Phaedo*² and in the *Apology*.³ On the surface the teaching of Anaxagoras bears much resemblance to Plato's own, and Plato desires to point out definitely that the resemblance is only one of words. Empedocles' four elements are also men-

¹ 967.² 97b.³ 26d.

tioned. This makes it impossible to suppose that Anaxagoras' doctrine is alone the object of Plato's attack.¹

It is quite true that these pre-Socratics did reduce nature to one or more elements, but that is not the same thing as saying that φύσις was used by them as the peculiar designation of element. φύσις is both ὅλη and εἶδος, says Aristotle, and then proceeds to use the word φύσις as a synonym for either. Such a procedure would have been impossible before Plato, and I do not know of any place in which even Plato uses the word as the synonym of primary substance. If this argument in the *Laws* contains any suggestion that the pre-Socratics thought of nature as primary substance, that suggestion arises from the general character of their philosophy and not from the meaning of this word.

The purpose of Plato's whole argument here is to demonstrate the primacy of mind and soul over the material world. In at least four other places² Plato repeats substantially the same ideas. But perhaps more clearly than any other passage, these pages from the *Laws* show the fundamental difference between Socrates, Plato, and Aristotle, compared with the pre-Socratics. They bring an entirely new view of nature into philosophic thought. In the *Laws* and the *Phaedo* especially all the resources of Plato's art are brought into play in the defense of what to Plato is the essential presupposition of all correct thinking. These ten pages of the *Laws* reveal the pre-Socratic φύσις in many lights. Now it is thought of as matter, now as blind force, now as material element or elements, now as the irrational. The common factor in all these cannot be reduced to the concept "element," but lies in their common opposition to the moral and spiritual and teleological view of the universe which is essential to every aspect of Plato's thought, and which he here considers essential to the purity of the state and the uprightness of the lives of its citizens, nor does the use of the word φύσις in this argument prove anything at all about the pre-Socratic use of this word.³

¹ Gomperz, *Gr. Denk.*, II, 521, says that Plato refers to Anaxagoras and Archelaus, but Susemihl, *Die. Gen. Ent. der Plat. Phil.*, II, 603, refers generally to Democritus, Empedocles, or Anaxagoras. Grote says flatly (*Plato*, IV, 385): "Who these teachers were we do not know." Cf. Eusebius *Praep. Ev.* xii. 620d: τὰς δόξας τῶν ἀπὸ τῶν ἐκτελέσει.

² *Phaedo* 96a-100b; *Soph.* 265c-266e; *Phil.* 28-30; *Tim.* 46c-e.

³ To show how little the terminology in such passages is valid as evidence for pre-Socratic usage cf. Arist. *Phys.* 196a24 ff., where in a passage concerning the same naturalistic philosophers φύσις is paralleled with νοῦς. Aristotle is there using his own terminology and opposing τὸ αὐτόματον to φύσις or νοῦς. See also Professor Shorey's discussion of *De anima* 405a3 in *Class. Phil.*, 1914, p. 316, where it is shown that Aristotle uses pre-Socratic terminology just as does Plato in the *Laws*.

Aristotle twice¹ collects definitions of φύσις. It would be idle to begin the study of Aristotle's use of φύσις with these lists of definitions. They are very abstract, they refer only to a few technical and philosophical ideas, and they are not at all fairly representative of the exceedingly numerous occurrences of the word in his writings. Several of these definitions have been discussed earlier in this paper. The most adequate approach would be through a complete inductive study of all the instances, laborious as such a study would be. Clearer and more complete discussions of φύσις than are furnished by the lists of definitions are those of the first chapters of the *Physics* and of the *De caelo*, but the most thoroughgoing treatment of φύσις in all Aristotle is probably to be found in the first book of the *De partibus animalium*. φύσις is there explained as the biologist sees it, and it should be remembered that Aristotle was most sympathetic to biological studies.

For the present purpose the best beginning is probably to be found in the natural history books where over and over again Aristotle uses φύσις in the common, everyday sense in which it includes the general characteristics of the object to be described. E.g., ἡ τοῦ αἵματος φύσις is θερμόν, ψυχρόν, λεπτόν, παχύ, θολερόν, καθαρόν.² Here are evidently a number of miscellaneous characteristics, any one of which may in a given instance determine the special character of the blood and so best describe it. The observation of these concrete qualities of objects forms, according to Aristotle,³ the first study of the serious worker in the field of natural science.

The use of φύσις for the general characteristics of an object occurs scores of times in Aristotle, most frequently in the books descriptive of animal life. One of the best illustrations is the peculiar phrase ἐξίστησι τῆς φύσεως—a thing “goes out of its nature” and becomes different from what it was. E.g., white “goes out of its nature” when it is mixed with black, the nature of the white changes.⁴

This method of observation was not the method of the pre-Socratics. They, too, made the study of φύσις their chief aim, but they erred by placing too great stress on the theory of origins, and also by accepting as fundamental the erroneous principle that to know the origin of an object was to know the object.

Another very common but sometimes misunderstood use of φύσις in Aristotle is τις φύσις. Partly because of the addition of the indefinite pronoun, partly because of Aristotle's idea that the individual concrete

¹ *Phys.* ii. 1; *Met.* iv. 4.

³ *De part. an.* 640a11 ff.

² *De part. an.* 651a12-16.

⁴ *Gen. et Corr.* 323b29.

object had itself absolute existence (οὐσία), and partly because of the common use of the same phrase in ordinary Greek, this phrase comes to be an extremely common expression for "something or other,"¹ when Aristotle wishes to emphasize his conviction that the object under discussion is unknowable or unknown, or at least vague or indifferent. Examples are plentiful. Anaxagoras seems to say that soul and mind are different, but in practice he treats them as the same thing (μὴ φύσει).² As a concrete reality, fire is a substance (πρᾶγμα τι καὶ φύσις).³ The same expression is so used of the Platonic ideas. "It is strange," says Aristotle, "to assert that there are some things or other beside concrete objects."⁴ Plato had used φύσις of the Ideas. That, too, may have influenced Aristotle's use of the phrase here.

A variety of this indefinite use of φύσις is τις φύσις limited by a genitive. This means hardly more than "kind of." E.g., Marrow is αἵματός τις φύσις.⁵ An "educated man" is one who can judge sagaciously about the right or wrong method employed in the treatment of any topic (περί τινος φύσεως).⁶ This of course verges on the periphrastic uses, of which there are numerous instances in Aristotle.⁷

Starting from the descriptive use of φύσις as the sum of an object's qualities or as one of those qualities or as the concrete object in which one or more qualities inhere, Aristotle subjects the word to the same philosophical division which lies at the basis of his whole scheme of thought. Any concrete object can be treated as either form or matter. So can the philosophical concept φύσις. Aristotle never tires of pointing out that it is legitimate to speak of the φύσις of an object when referring to its antecedents, or, in his own terminology, its ὕλη, and that it is equally legitimate to speak of φύσις when referring to the purpose of an object, or, in his own terminology, its εἶδος.⁸ This is Aristotle's real contribution to the lexicography of φύσις. As so often in his writings, he takes the common, everyday use of a word and philosophizes upon it.

Roughly speaking, Aristotle seems to think of himself as furnishing the true reconciliation between the pre-Socratics and Plato. The pre-Socratics discussed the world and its contents under the name of φύσις, but they erred in seeking for the true explanation and essence of this φύσις

¹ See excellent note on Aristotle's use of this phrase in Hicks's edition of *De anima*, p. 228.

² *De anima* 405a15.

⁵ *De part. an.* 651b20.

³ *Met.* 1052b12.

⁶ *De part. an.* 639a10.

⁴ *Met.* 997b6. So 1050b34 and often.

⁷ See Bonitz' index.

⁸ A large number of these passages are collected in Zeller, *Ph. d. Gr.*

in material causes. Plato, too, discussed the world and its contents under the name of φύσις, but erred in seeking its ultimate reality in ideal forms. Aristotle takes the same subject-matter and shows by his word-usage as well as by his theoretical explanations that the ultimate reality is the concrete object itself, but that there is a sense in which the object is to be explained by its material cause. So far the pre-Socratics were right. They were wrong in finding the only explanation in those material causes. The material causes offer only a partial and very incomplete explanation. The fullest explanation is to be found in the εἶδος or, from another point of view, the τέλος. So far Plato was right. He erred, however, in thinking of this εἶδος or τέλος as something apart from the concrete object itself.

This rough restatement of Aristotle's doctrine of form and matter in terms of φύσις is also the best key to the exceedingly varied and frequent employment of the word by Aristotle. Its simplest explanation, as has been already remarked, is to be found in the first book of the *De partibus animalium*. To this must be added the first book of the *Metaphysics* for Aristotle's discussion of Plato.

Aristotle frequently states his conviction that the εἶδος is a much truer explanation of an object than is the ὕλη, emphatic as are his statements that the εἶδος is nothing outside the object itself. The κατὰ τὸν λόγον φύσις (the form) takes τὴν ἀναγκαίαν φύσιν (the matter) and makes a virtue of necessity, always turning what is given to some good use. For example, there is too much bony matter in some of the larger animals. This is ἡ ἀναγκαία φύσις. Ἡ κατὰ τὸν λόγον φύσις takes this superfluity of bony matter and uses it to make horns which may protect the animal from danger.¹

Φύσις is used by Aristotle of the universe as a whole,² but in almost all the places where Aristotle so writes he is either using the language of his predecessors or criticizing their doctrines. Far more frequently he uses φύσις of that part of the universe which has its moving principle within itself as distinguished from mathematical objects and objects of art.³ "Art imitates nature,"⁴ but only as art makes use of natural objects do the spheres of art and nature coincide. The objects of mathematical science are immovable, and so fall outside the realm of natural science. This special sphere of reality formed the whole interest of the

¹ *De part. an.* 663b22-34.

² E.g., *Met.* 1075a11; *De caelo* 268b11.

³ Explained *De part. an.* 641b1-10; *De caelo* 268a1 ff.; *Phys.* 192b8-32.

⁴ *Phys.* 194a21 and often.

pre-Socratics. To them art and the soul were not of much interest except as they had material causes. To Aristotle, too, art and the soul belong to the science of physics, but the science of physics deals only with their less important aspects.

In this connection *φύσις* is used for the object itself¹ or for the principle of motion which is inherent in that object. In this latter use *φύσις* comes to mean "life principle" when used of living beings.² Then *ἡ φυσικὴ θεωρία* or *φυσική* alone comes to be used for the science which treats these objects or discusses this principle.³ This usage is first found, I think, in Aristotle.

The working of this principle, *φύσις*, is regular and can be depended on. It is opposed to *τύχη*⁴ and can almost be translated "natural law," for it forms the Aristotelian explanation of the phenomena which we now interpret by our conception of natural law. These laws are to be inductively determined, as Aristotle states in a remarkable sentence, *παρὰ τῆς φύσεως εἰληφότες ὥσπερ νόμους ἐκείνης*;⁵ and again, *διὰ τὸ τὴν φύσιν αὐτὴν οὕτως ἐπάγειν ἀκολουθοῦμεν*;⁶ and again, *δεῖ τὴν φύσιν θεωρεῖν εἰς τὰ πολλὰ βλέποντα*.⁷ The principles so deduced—laws, as we should call them—form the usual or normal way in which natural objects may be expected to act. What is opposed to this usual functioning is a *τέρας*.⁸ In this way Aristotle uses the common phrases *κατὰ φύσιν*, *φύσει*, and *παρὰ φύσιν*. He defines *κατὰ φύσιν* as *ὅσα τοῖτοις* (natural objects) *ὑπάρχει καθ' αὐτὰ οἷον τῷ πυρὶ φέρεσθαι ἄνω*.⁹

This innate tendency of natural objects to act in certain definite ways is often personified. This personification¹⁰ is generally no more than a figure of speech already frequent in the *Hippocratica*, and means no more than do like phrases from the most matter-of-fact scientists of today. There are, however, some passages in which this personification is carried so far that nature and God seem to be identified. On the other hand, at least once it is expressly stated that nature is not *θεία*, but only *δαιμονία*,¹¹ and God is by Aristotle, as by Laplace, usually quite left out of his system. This inconsistency arises from the vagueness of

¹ E.g., *πάση τῇ φύσει* = "every natural object," *De anima* 430a10.

² E.g., *τῆς φύσεως ὅλης* = "the whole life," *De part. an.* 652b7.

³ E.g., *De part. an.* 640a2.

⁷ *De part. an.* 663b27.

⁴ *Ibid.* 641b27-30.

⁸ *De gen. an.* 770b10-17.

⁵ *De caelo* 268a14.

⁹ *Phys.* 192b35.

⁶ *Ibid.* 268a19.

¹⁰ See Bonitz' *Index* for list of verbs so used with *φύσις* as subject.

¹¹ *De Divin.* 463b14.

Aristotle's idea of God and from the contradiction inherent in his theology. It is the same difficulty that reappears in modern discussions of the immanence and the transcendence of God.

For the purposes of this essay the discussion of Aristotle's usage is not so much interesting for its own sake as for the light it throws on his predecessors. Just as the significance of Aristotle's ethics lies at least partly in its being a scientific interpretation of Greek life, so the significance of his thought lies at least partly in its being an analysis of Greek concepts. Aristotle's use of φύσις is a singularly excellent illustration of his philosophic method. He gives a most detailed and searching analysis of the concept φύσις as found in the literature preceding him, an analysis based entirely on his own metaphysics, yet an analysis which can be shown to rest entirely upon the usages of the common language.

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